



Southwest LRT Update

Freight Rail – Technical Issue #21

City of Minneapolis

Transportation and Public Works Committee

Chris Weyer
Jim Alexander
June 4, 2013



Today's Topics

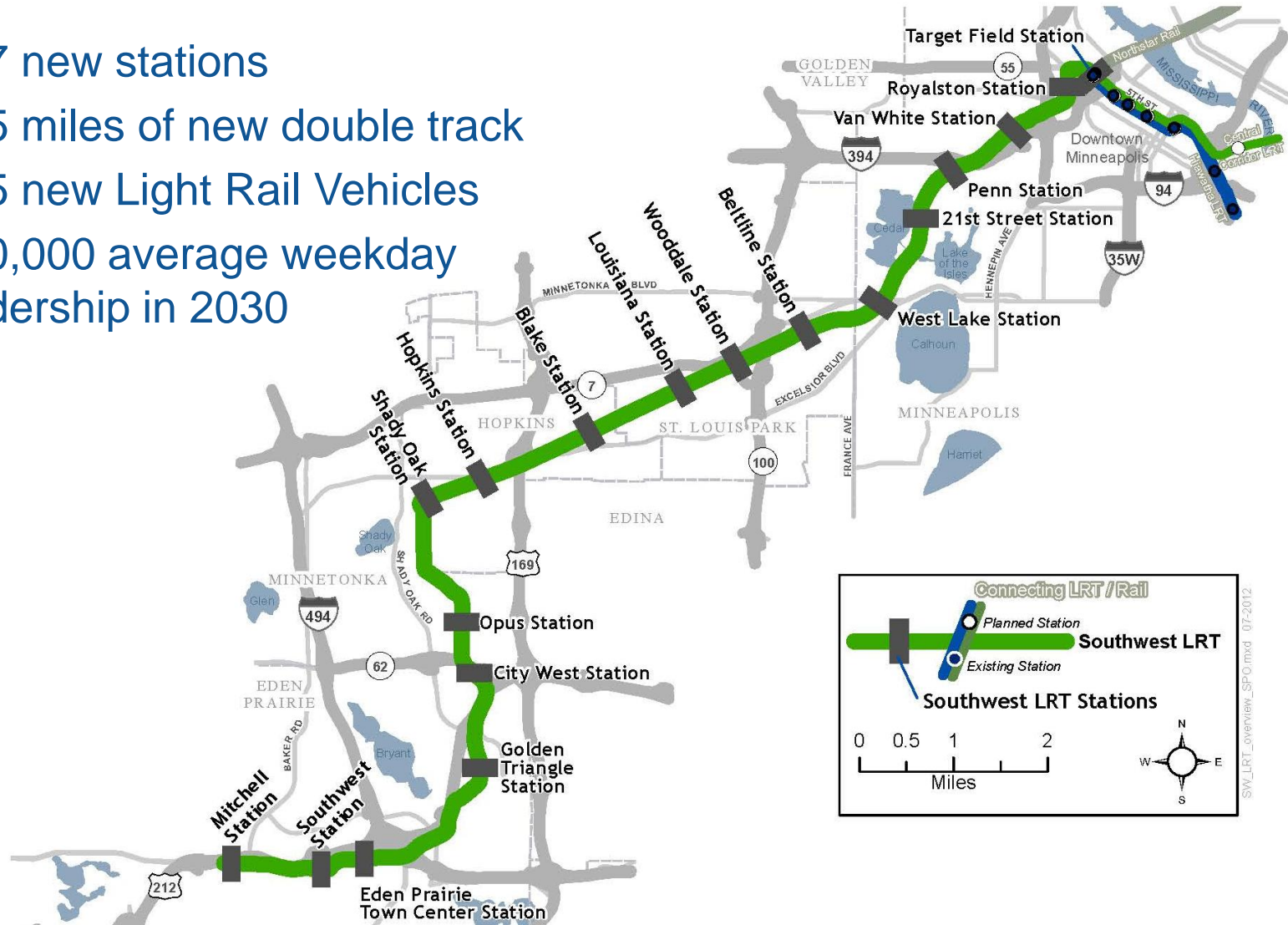
- Project Overview and Timeline
- Freight Rail Update
- A Look Ahead





Southwest LRT

- 17 new stations
- 15 miles of new double track
- 35 new Light Rail Vehicles
- 30,000 average weekday ridership in 2030



SW_LRT_Overview_SPO.mxd 07-2012



Southwest LRT Development Timeline

2013

- Project Development

2014

- Environmental Documentation Complete

2014-15

- Engineering

2015

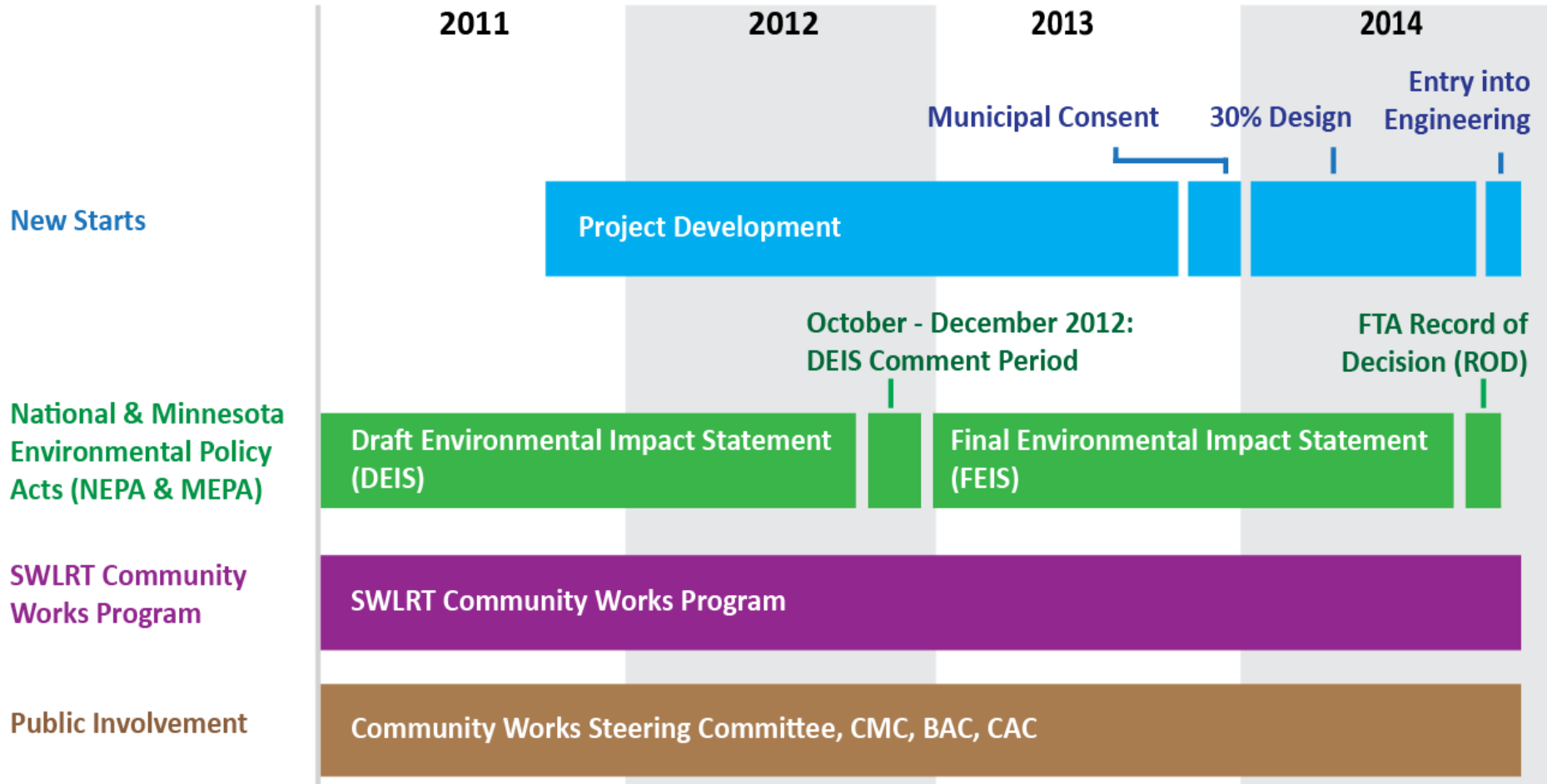
- Full Funding Grant Agreement

2015-17

- Heavy Construction

2018

- Passenger Operations



SWLRT PE Technical Issues

Revision 04: 28 May 2013

Technical Issues:

1. Eden Prairie Alignment
2. Nine Mile Creek Crossing
3. Golden Triangle Station
4. Shady Oak Road & TH 212 Crossing
5. City West Station & TH 62 Crossing
6. Opus Station
7. Opus Hill/Minnetonka-Hopkins Bridge
8. Shady Oak Station

9. PEC West/PEC East Interface Point

10. Downtown Hopkins Station
11. Excelsior Blvd. Crossing
12. Blake Station
13. Louisiana Station
14. Wooddale Station
15. TH 100
16. Beltline Station
17. West Lake Station
18. Kenilworth Corridor
19. Bassett Creek Valley Corridor
20. Royalston Station/Interchange Project Coordination
21. Freight Rail Co-location/Relocation Alternatives



PEC West



PEC East



Joint PEC West/PEC East

System-wide Technical Issues (not shown):

22. Traction Power Substation and Signal Bungalow Locations
23. Operation & Maintenance Facility (OMF) Location
24. Park & Ride, Kiss & Ride and Bus Layover Locations
25. Trails and LRT Interface Coordination

PE Technical Issues

The map illustrates the proposed Green Line Extension (GLE) route, highlighted in green, connecting 21 stations from Mitchell Station in the south to Target Field Station in the north. The route is divided into segments: a purple segment in the south (stations 1-5) and a yellow segment in the north (stations 11-21). Stations 6-10 are in the middle section. The map shows the route passing through or near Hopkins, Edina, Minneapolis, and St. Louis Park. Major highways (Interstates 494, 394, 94) and local roads (Highways 7, 169, 62) are marked. Water bodies like Minnetonka Lake, Eden Prairie Lake, and various creeks are also shown. A scale bar (0 to 2 miles) and a north arrow are located in the bottom right corner.

Stations (from south to north):

- Mitchell Station
- Southwest Station
- Eden Prairie Town Center Station
- Golden Triangle Station
- City West Station
- Opus Station
- Shady Oak Station
- Downtown Hopkins Station
- Blake Station
- Wooddale Station
- Beltline Station
- West Lake Station
- 21st Street Station
- Penn Station
- Van White Station
- Royalston Station
- Target Field Station

Other locations and features:

- Minnetonka
- Eden Prairie
- Hopkins
- Edina
- St. Louis Park
- Minneapolis
- Interstates: 494, 394, 94
- Highways: 7, 169, 62
- Water bodies: Minnetonka Lake, Eden Prairie Lake, Nine Mile Creek, Minnehaha Creek

Scale: 0 to 2 Miles. North Arrow pointing up.





Technical Issue #21: Freight Rail Co-location / Relocation





Freight Rail Technical Issue #21

- Background:
 - Co-location and relocation analysis required by FTA as a condition to enter PE
 - Part of the Metropolitan Council's due diligence and responsibility as project sponsor

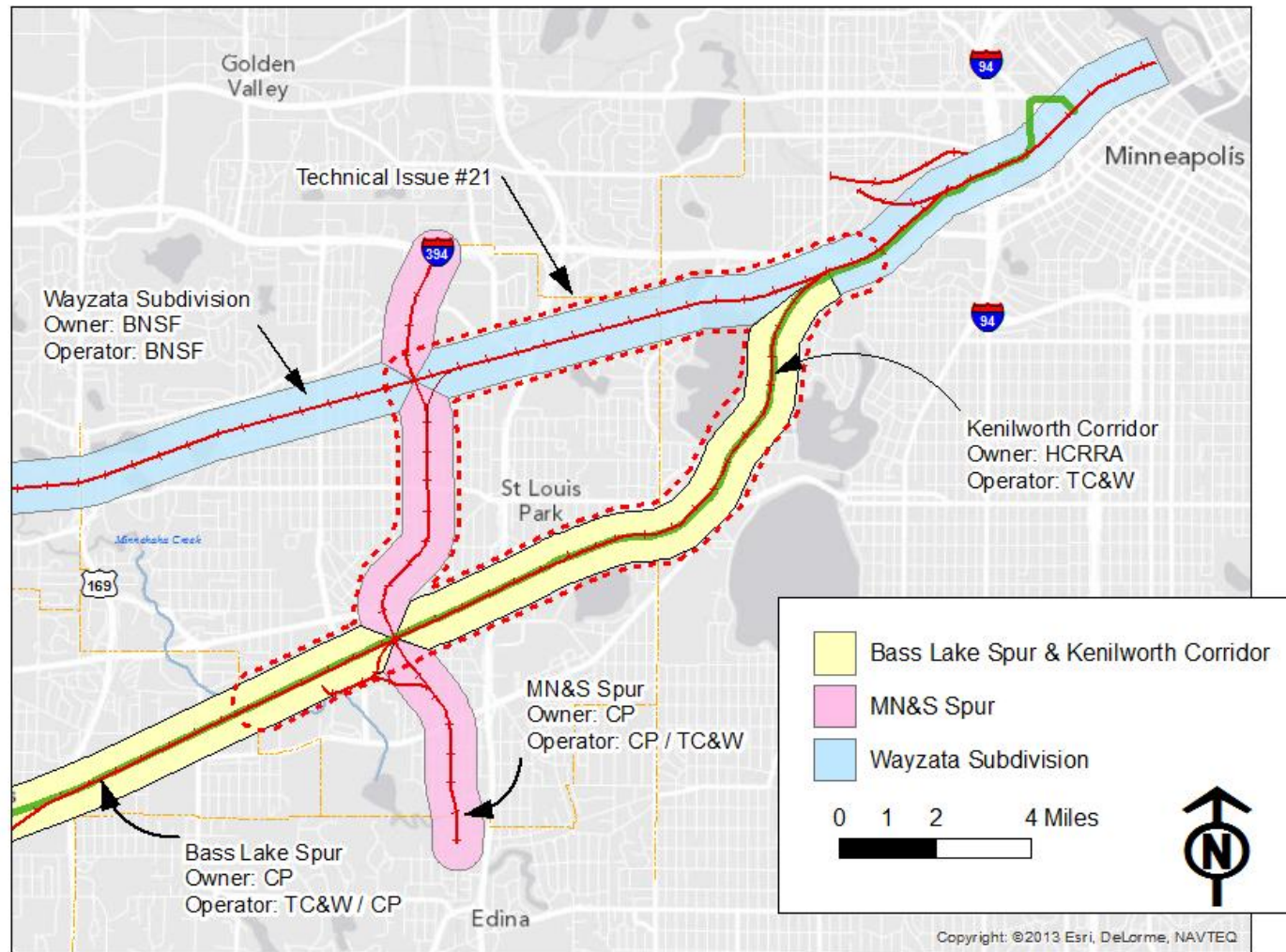


Freight Rail Technical Issue #21

- Review existing information
 - Freight Rail lines
 - Train volumes
- Technical Issue overview
- Freight Rail co-location design options
- Freight Rail relocation design options



Freight Rail Technical Issue #21



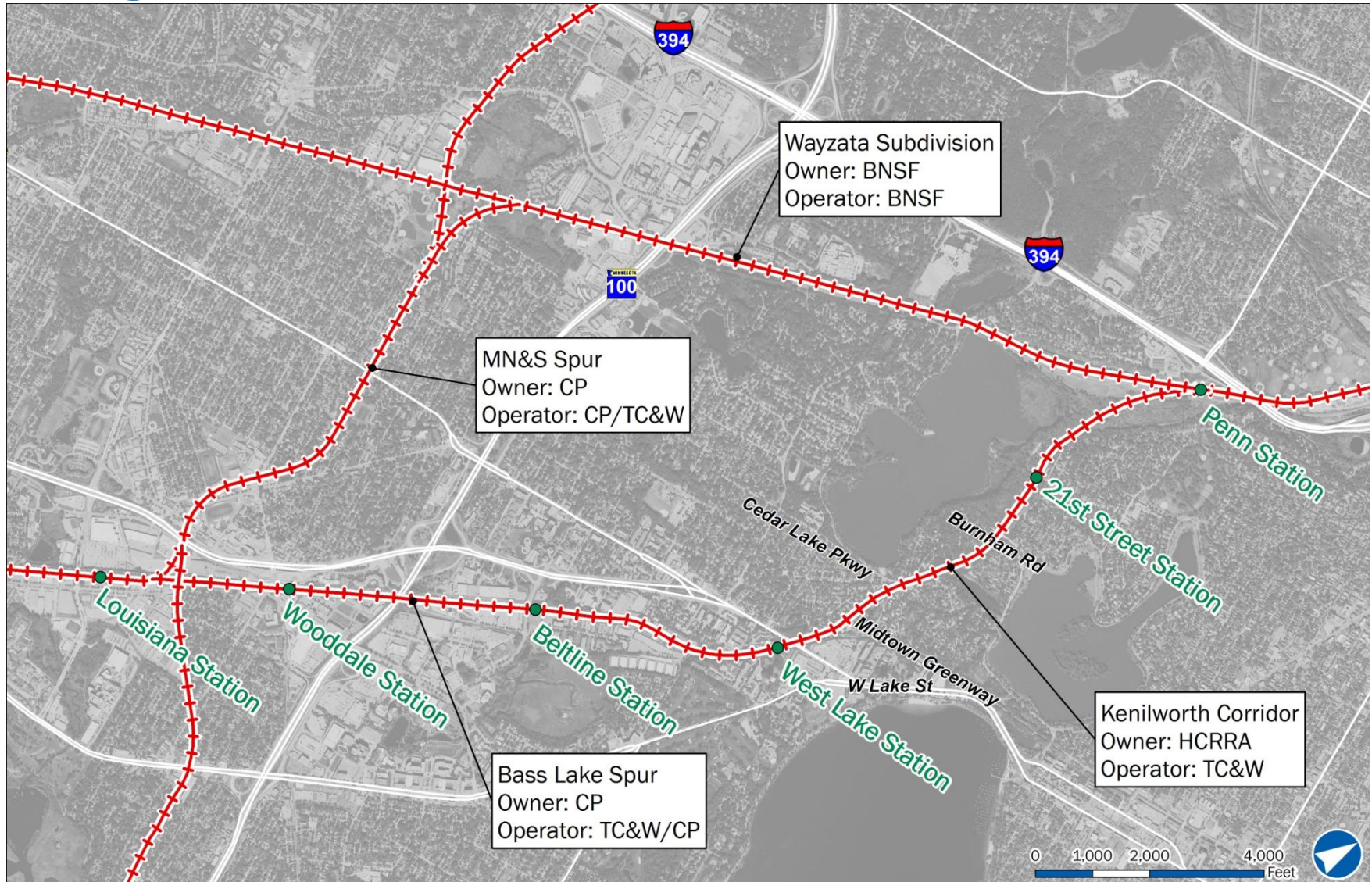
Freight Rail Technical Issue #21

Existing Train Volumes

Railroad and Route	Avg. Weekly Trains	Avg. Number of Cars Per Train	Typical Commodities
TC&W/ Bass Lake and Kenilworth	14	65 – 75	Agri-goods
	5 – 6	80 – 125	Ethanol, Grain, Coal
CP/ MN&S	10	10 – 25	Local Services
BNSF/ Wayzata Subdivision	91	80 – 125	Wide Variety

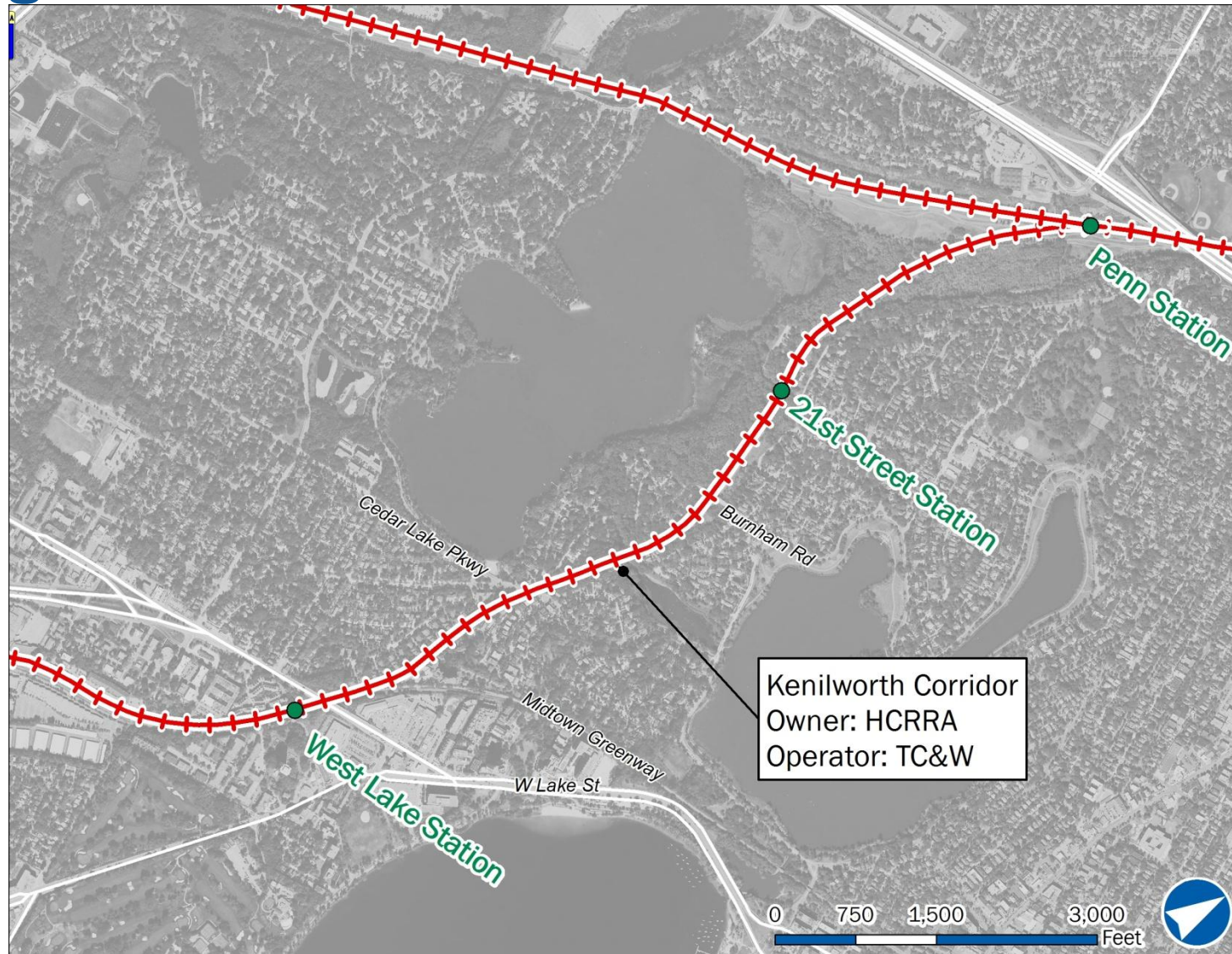


Freight Rail Technical Issue #21 - Overview



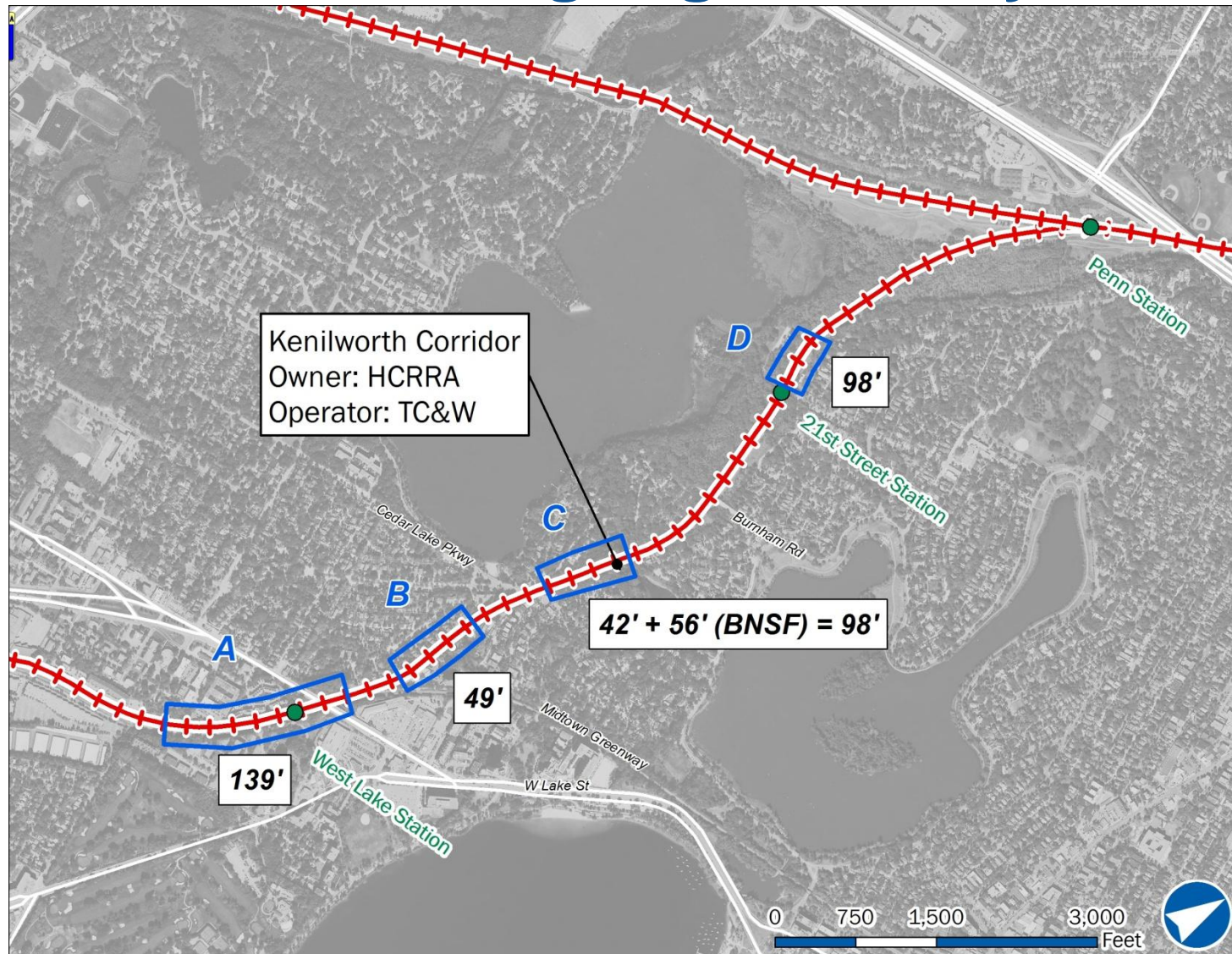


Freight Rail Co-Location – Kenilworth Corridor





Kenilworth – Existing Right-of-Way Widths



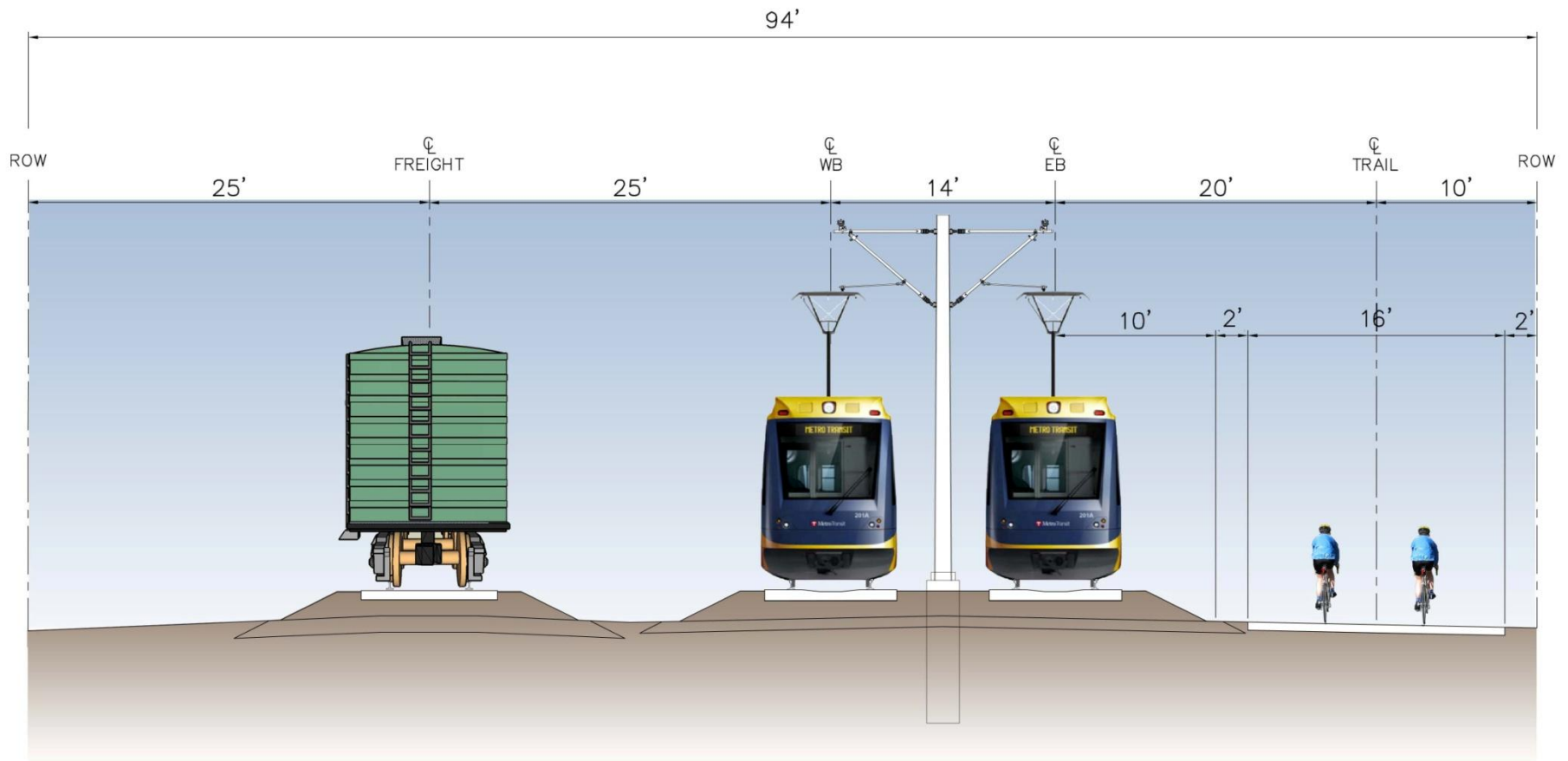


Freight Rail Technical Issue #21

- Freight Rail Co-location Design Options
 - All modes at-grade
 - Trail relocated
 - Trail elevated
 - LRT elevated
 - LRT in tunnel
 - Shallow tunnel
 - Deep bored tunnels

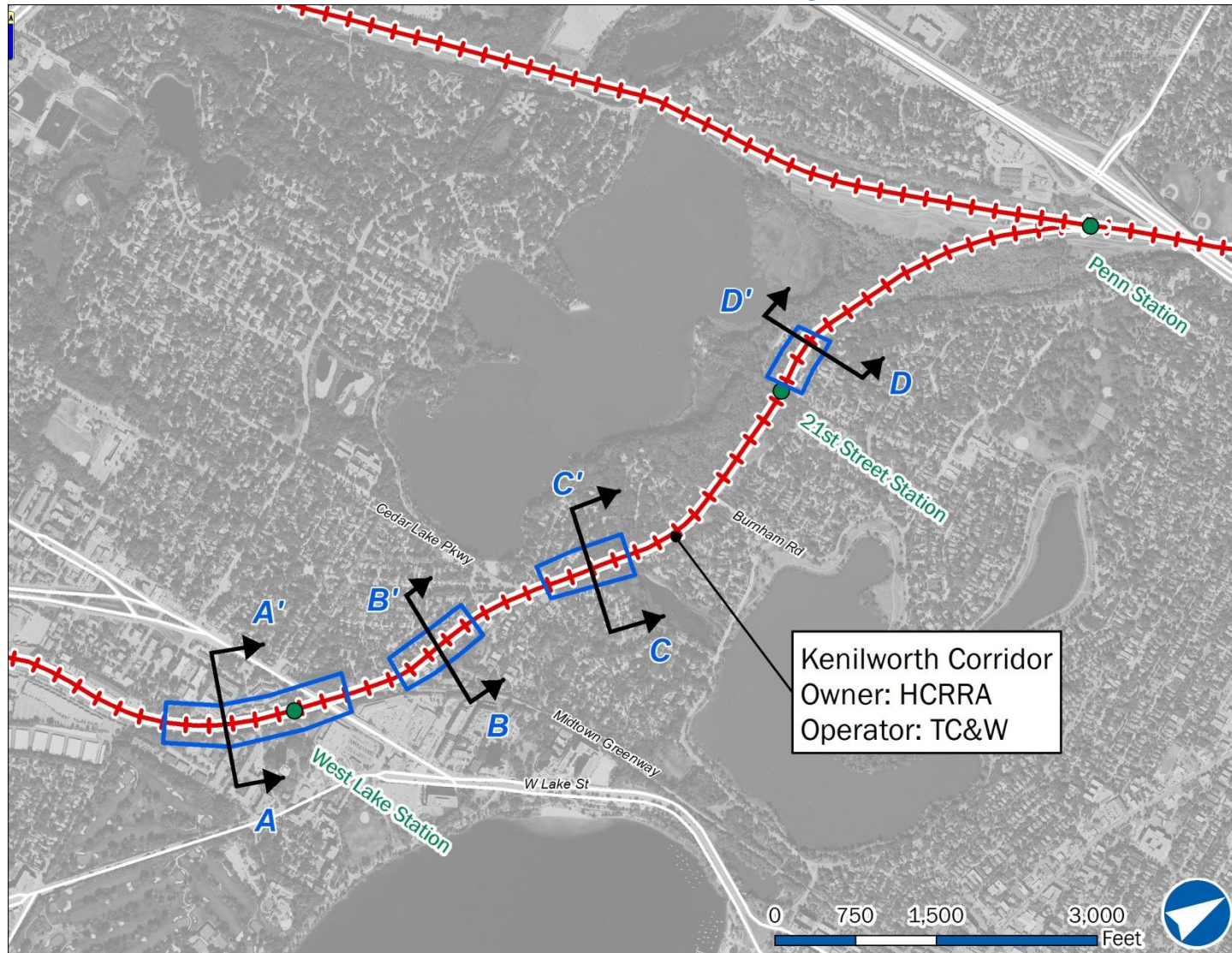


All Modes At-Grade - 94 ft Section



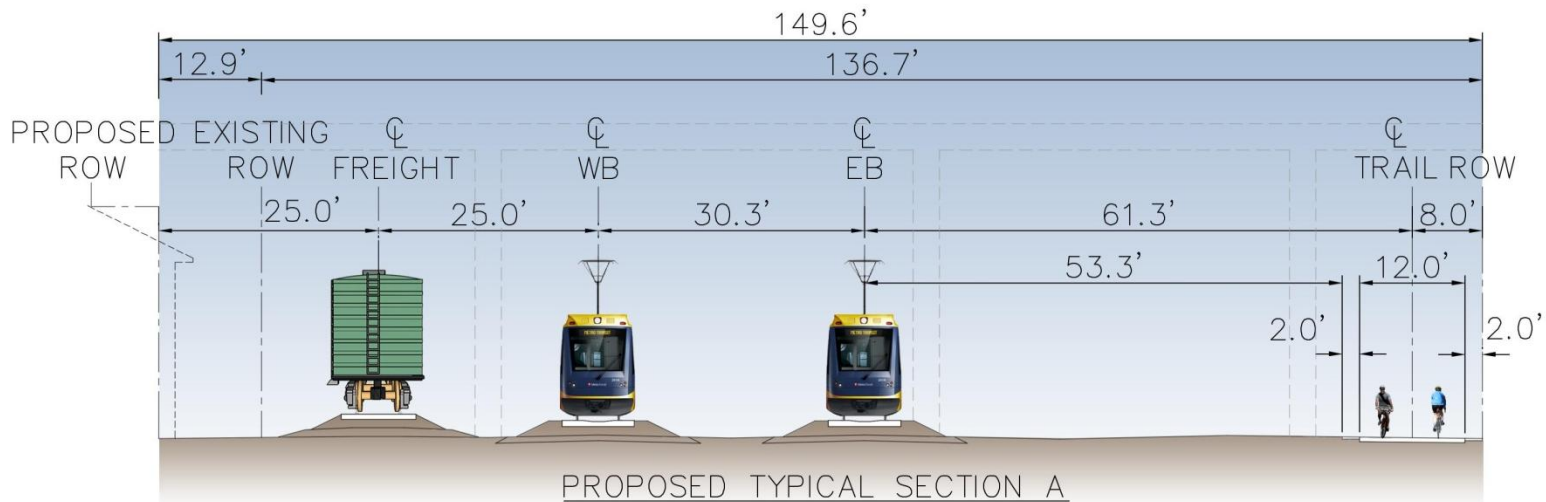
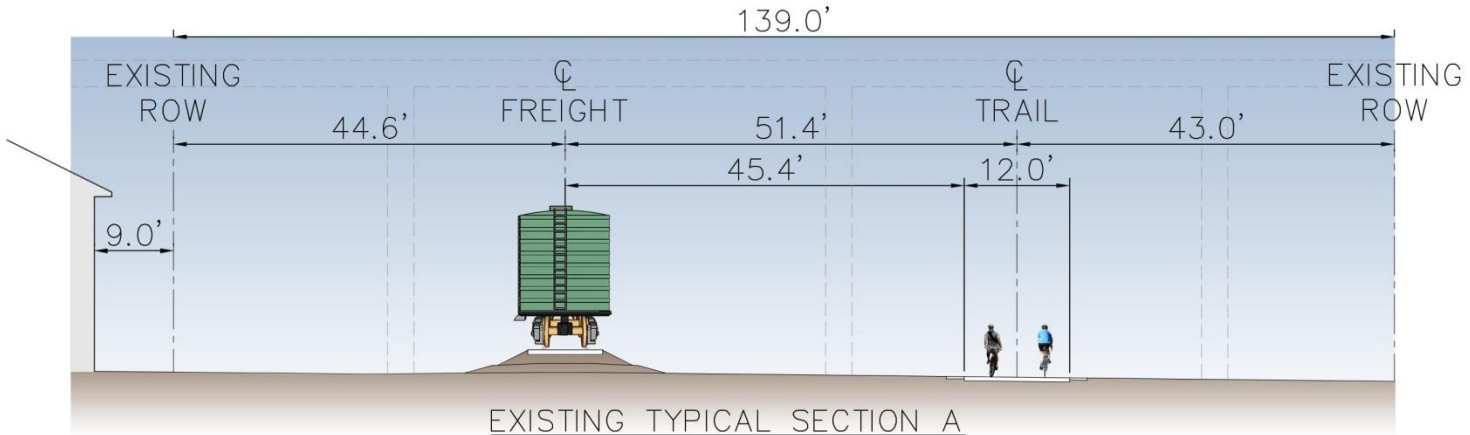


All Modes At-Grade – 94 ft Typical Sections





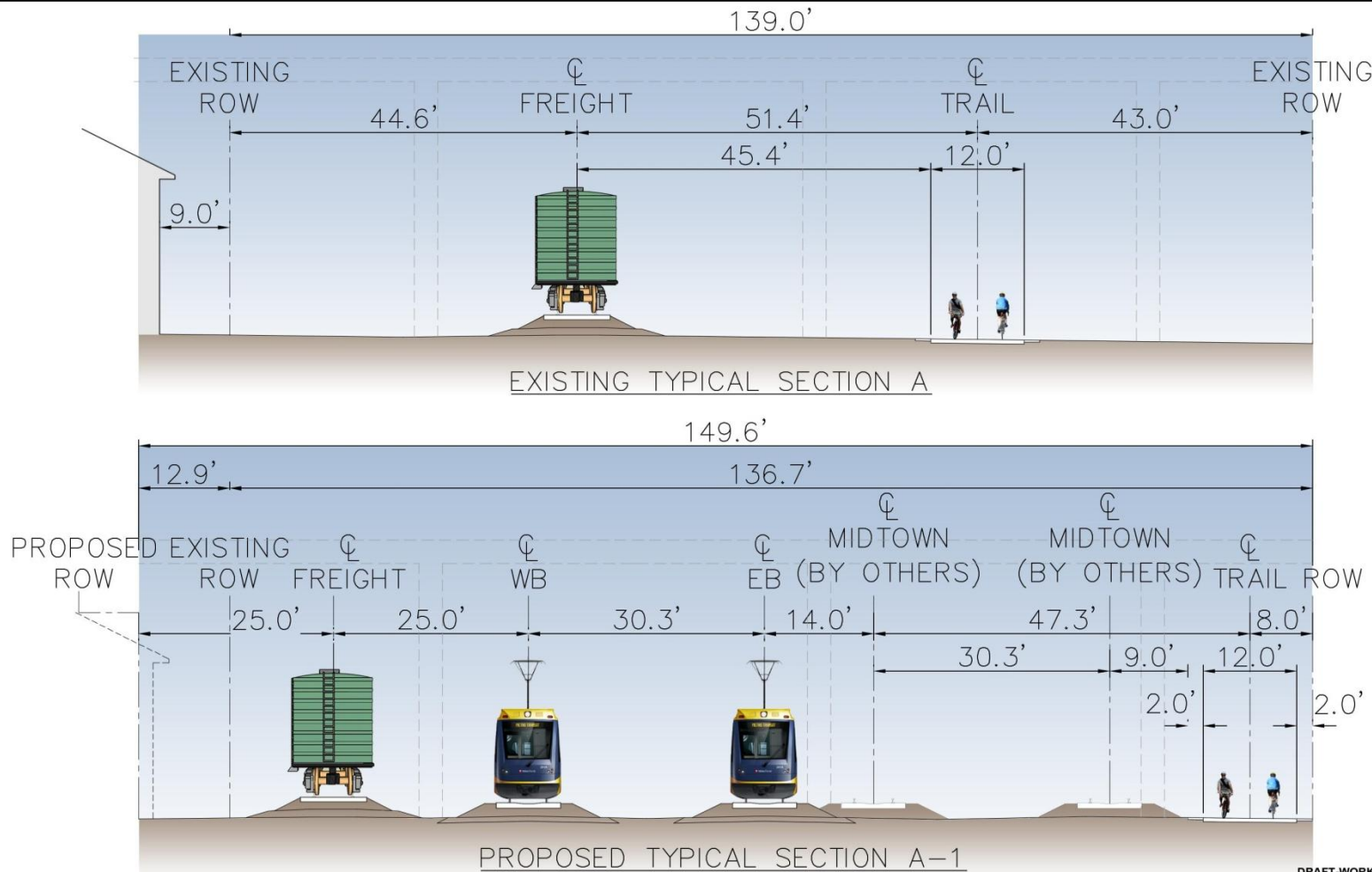
All Modes At-Grade - Typical Section A-A'



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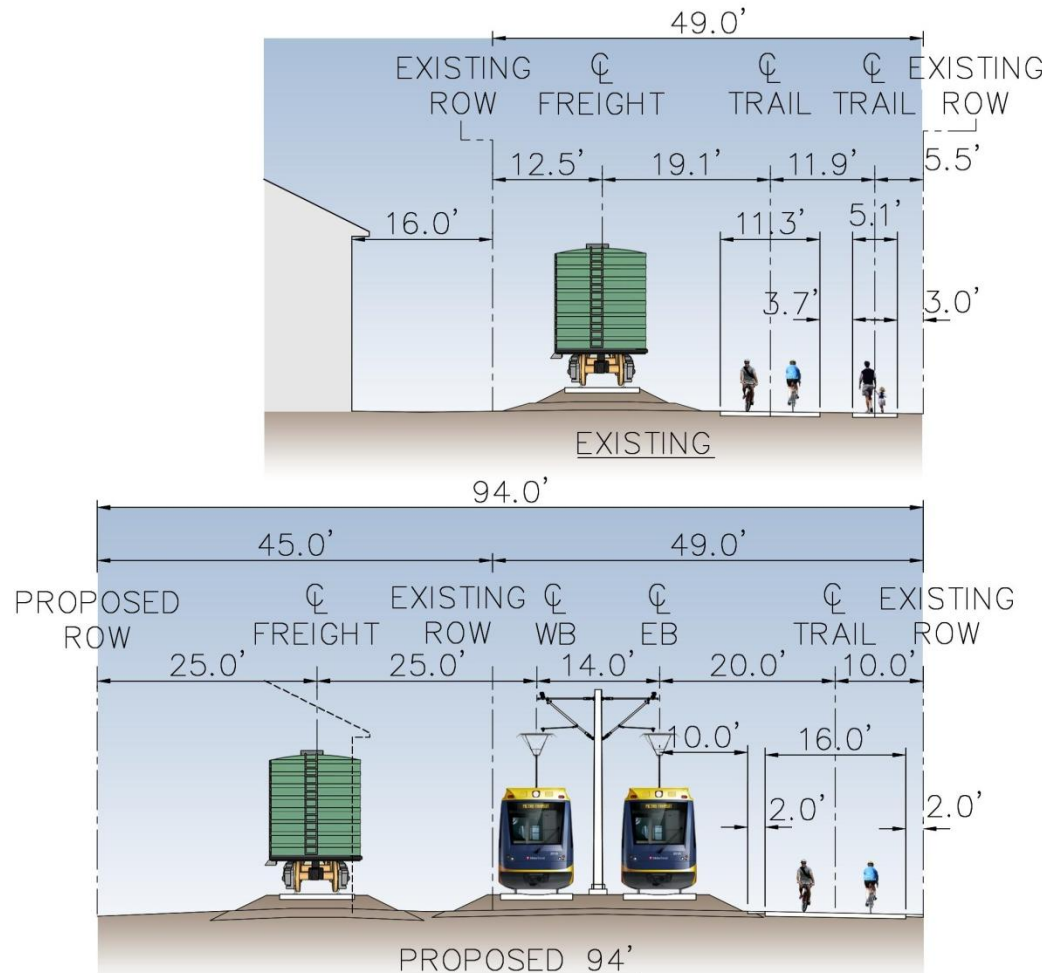
All Modes At-Grade - Typical Section A1-A1'



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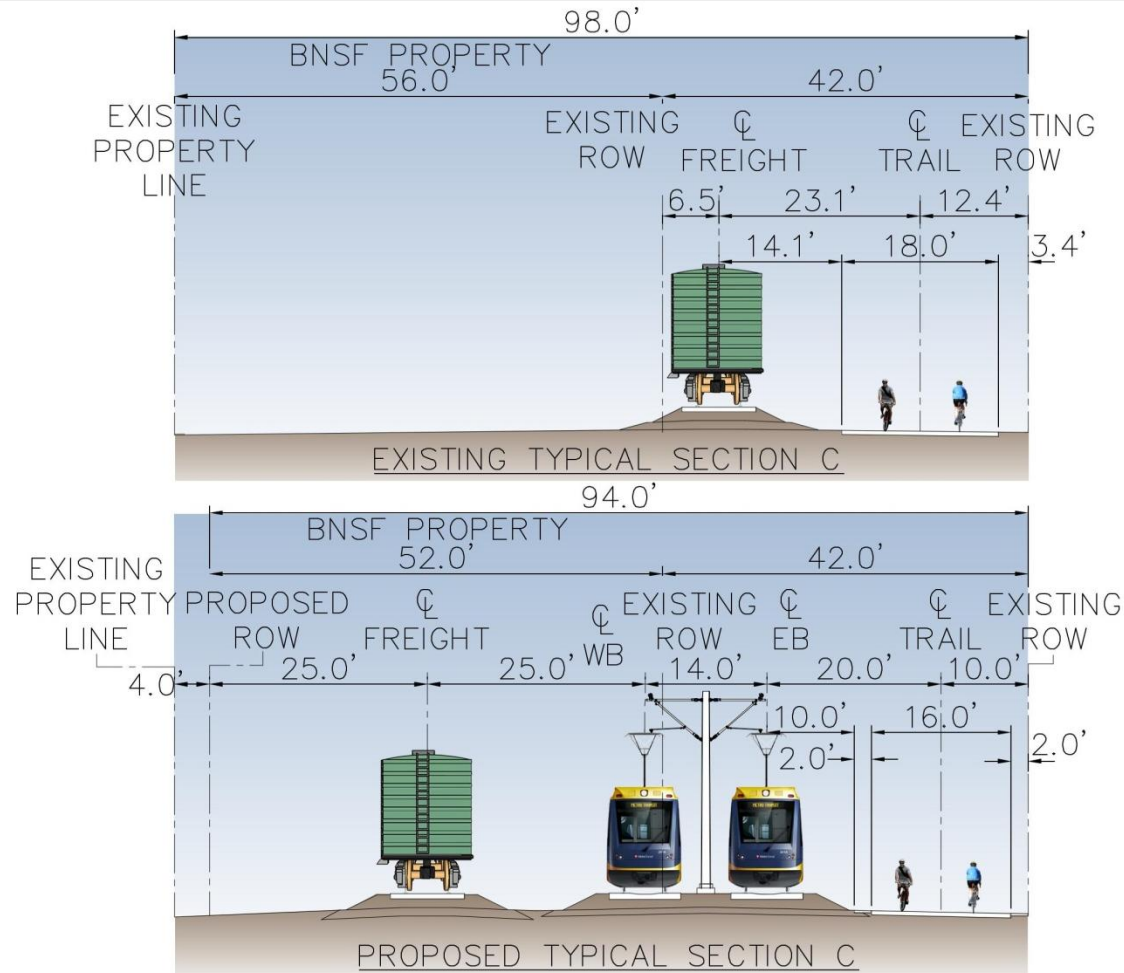
All Modes At-Grade - Typical Section B-B'



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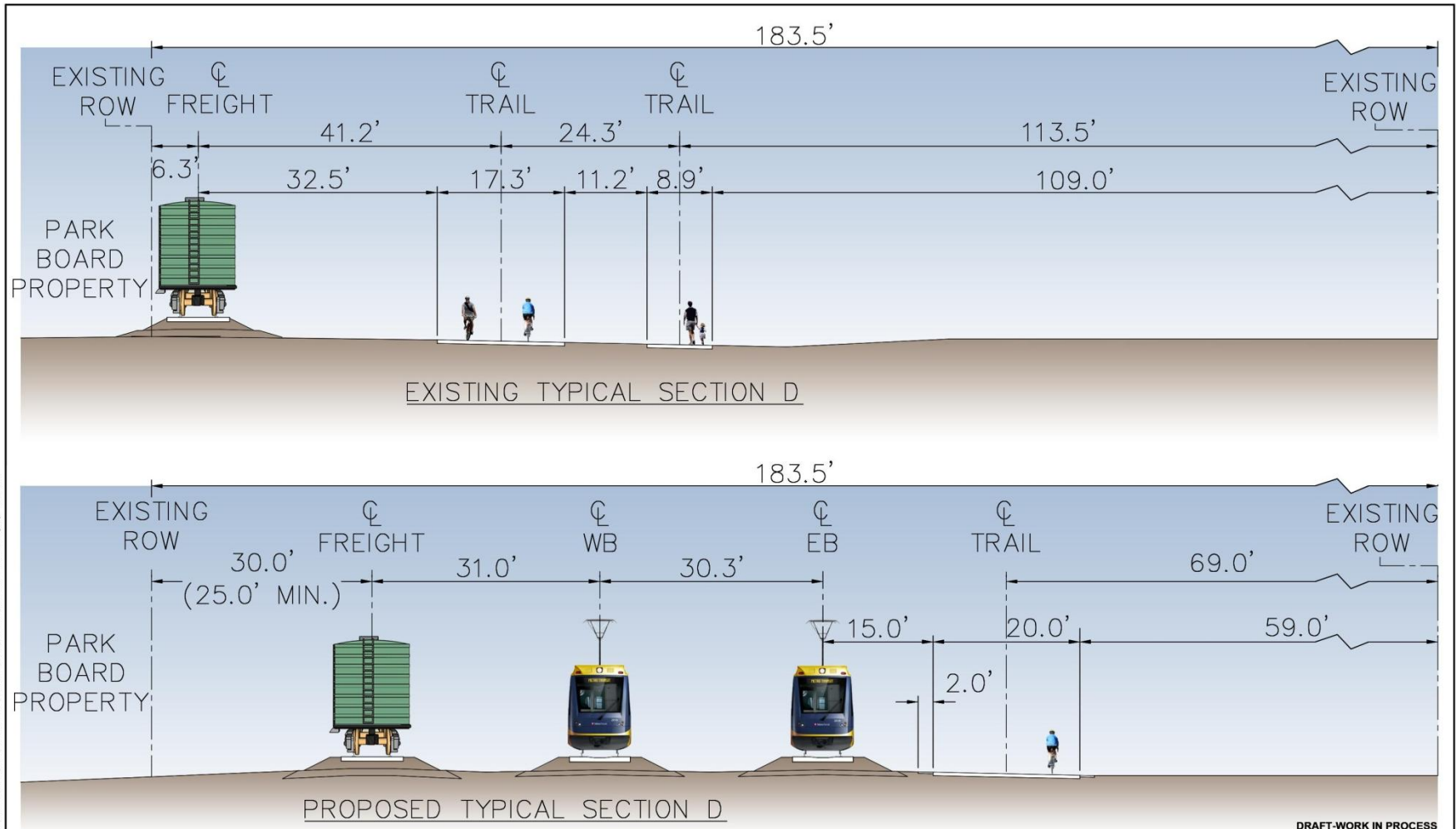
All Modes At-Grade - Typical Section C-C'



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All Modes At-Grade - Typical Section D-D'



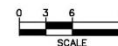
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SOUTHWEST LIGHT RAIL
TYPICAL SECTION D
CO-LOCATION

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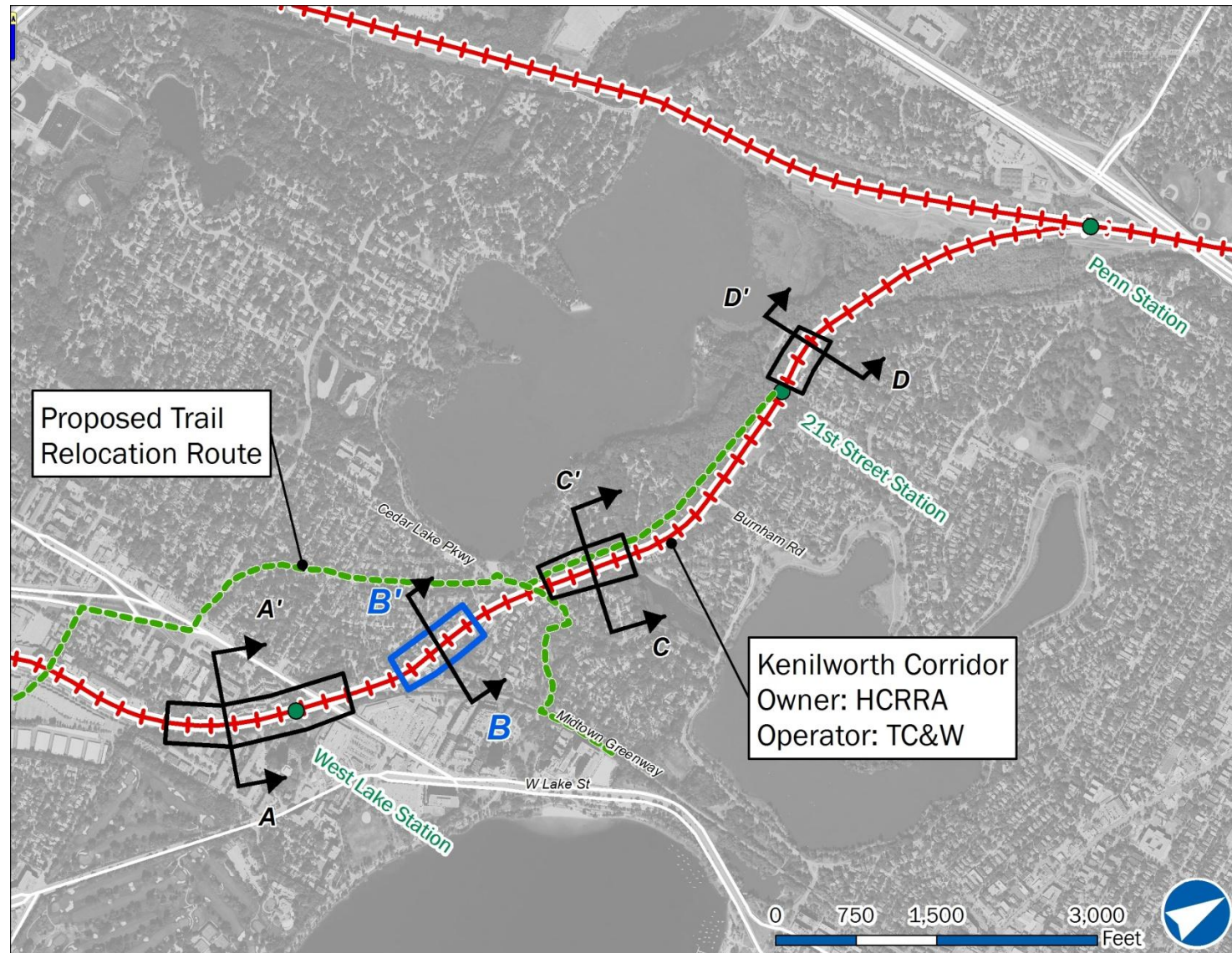


Freight Rail Technical Issue #21

- Freight Rail Co-location Design Options
 - All modes at-grade
 - Trail relocated – Midtown Greenway to Cedar Lake Pkwy.
 - Trail elevated – West Lake Station to North side of Burnham Bridge
 - LRT elevated – Lake Street Bridge to North side of Burnham Bridge
 - LRT in tunnel
 - Shallow tunnel: Lake Street Bridge to North of Cedar Lake Pkwy.
 - Deep twin bored tunnels: West of West Lake Station to South of 21st Street Station

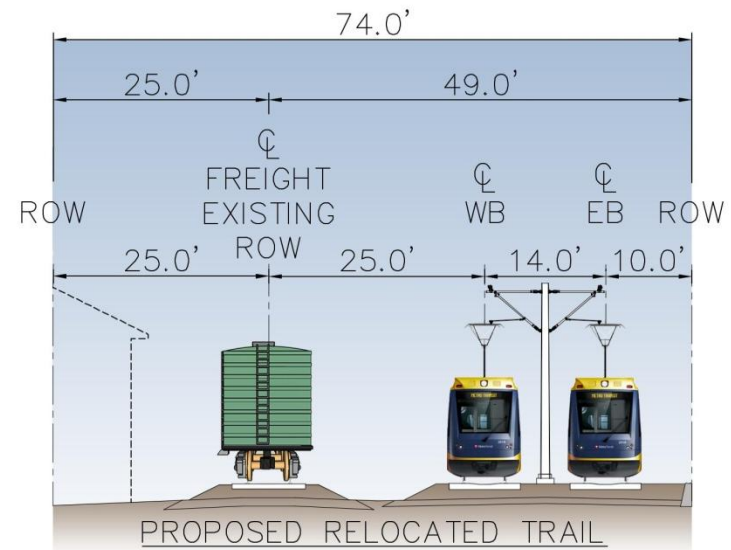
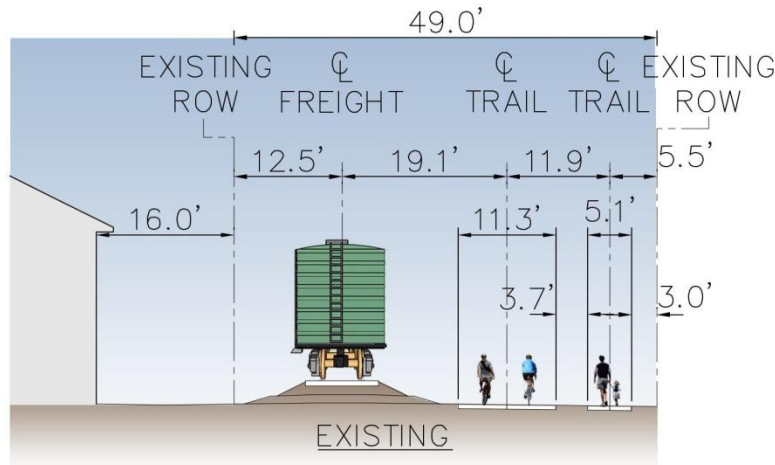


Additional Design Options – Typical Section B-B'



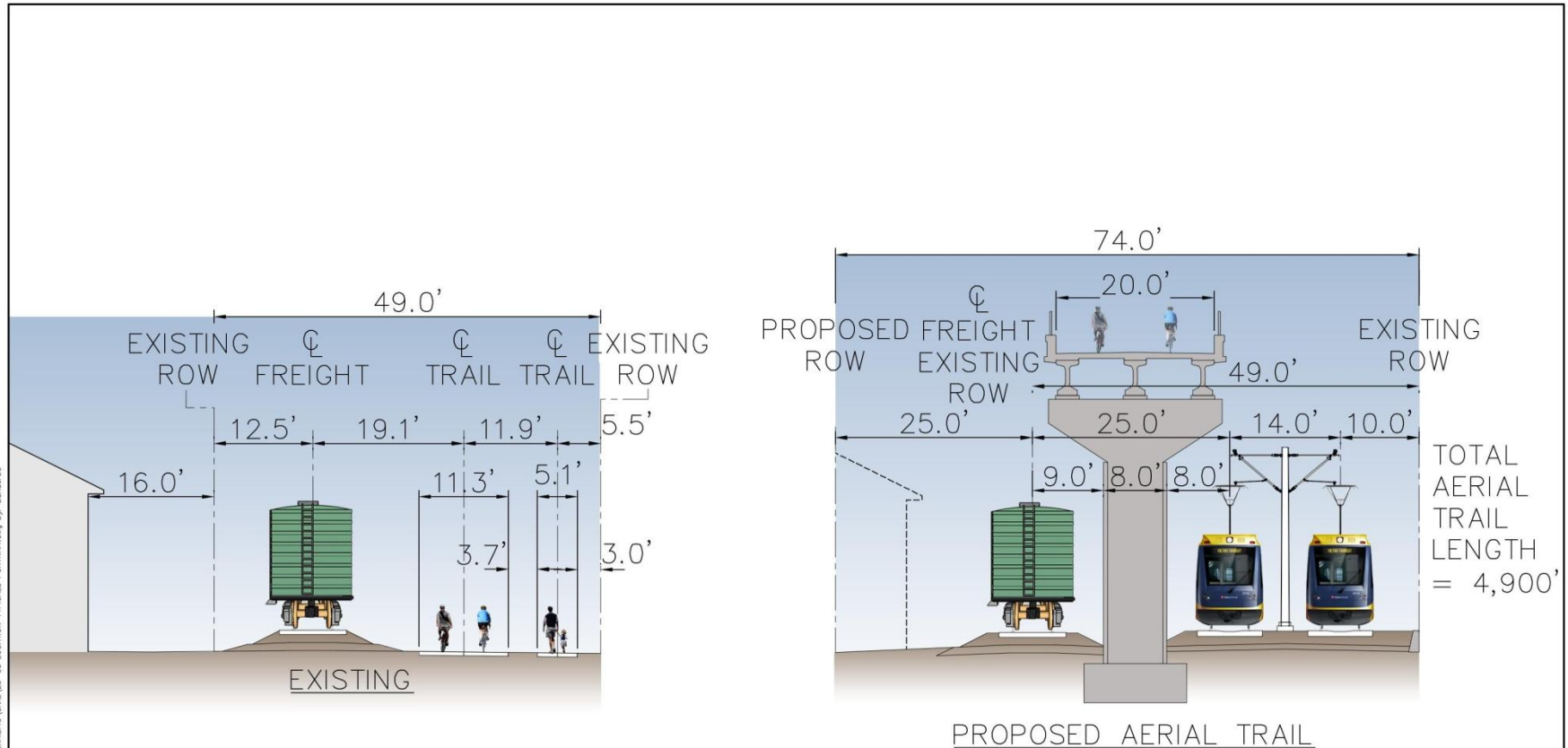


Trail Relocated - Typical Section B-B'



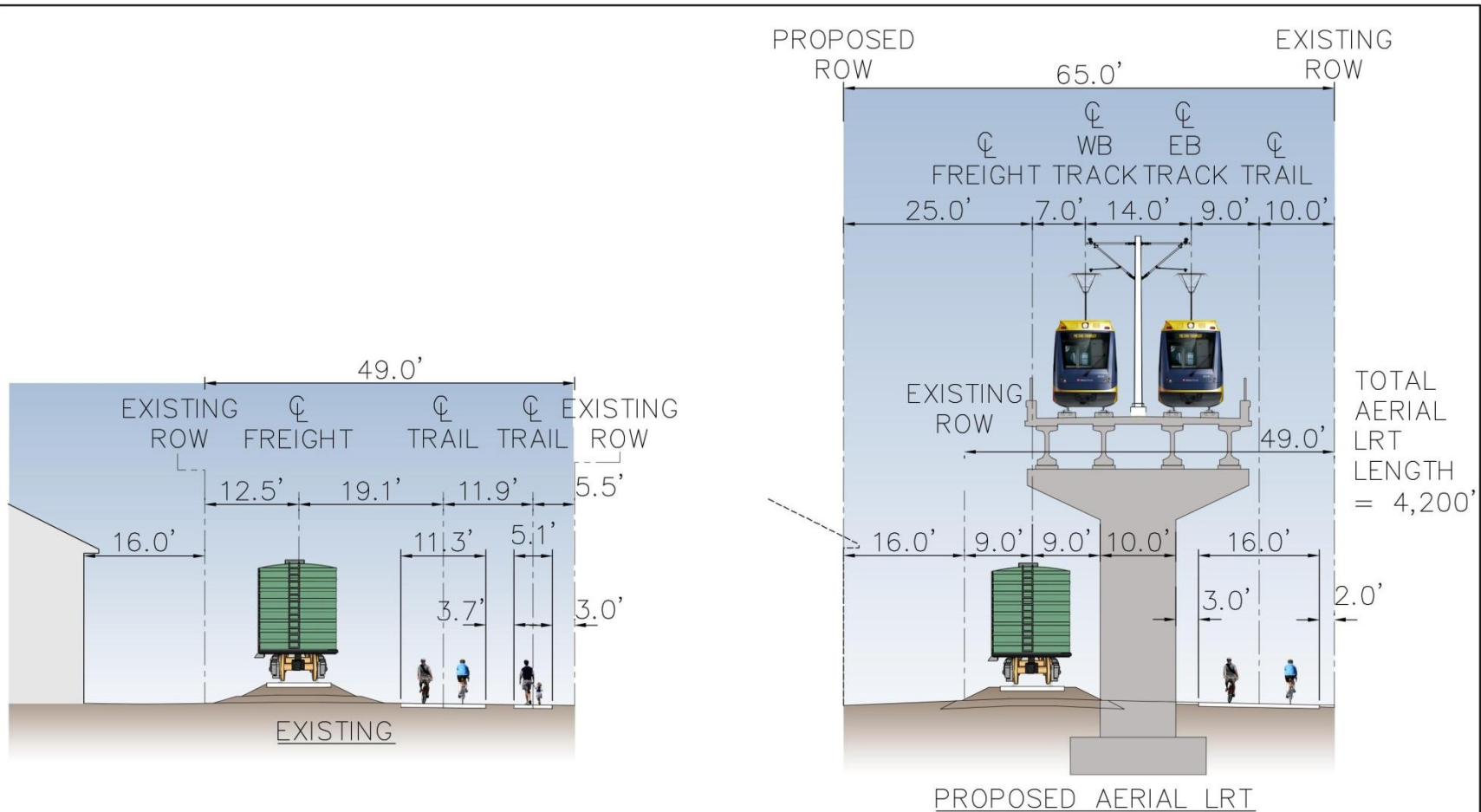
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Trail Elevated - Typical Section B-B'



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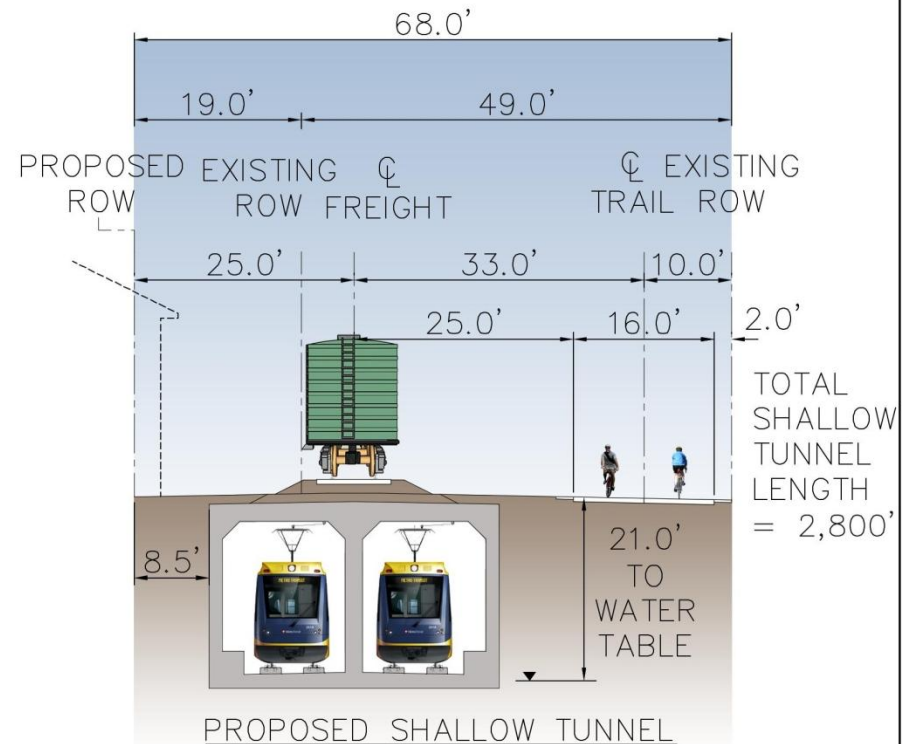
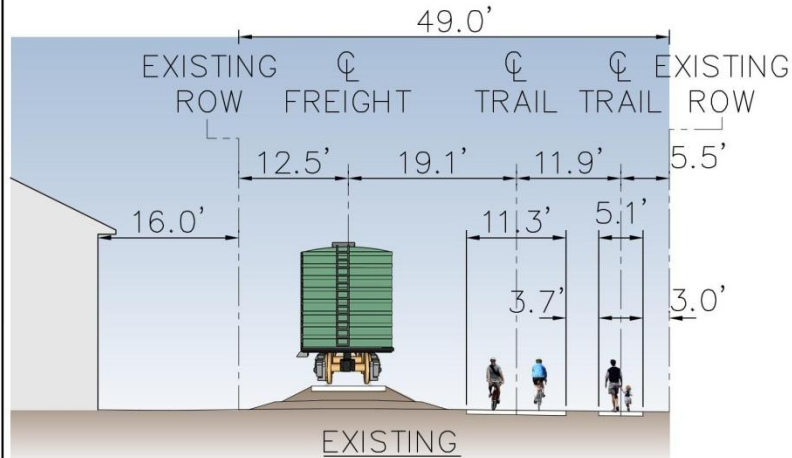
LRT Elevated - Typical Section B-B'



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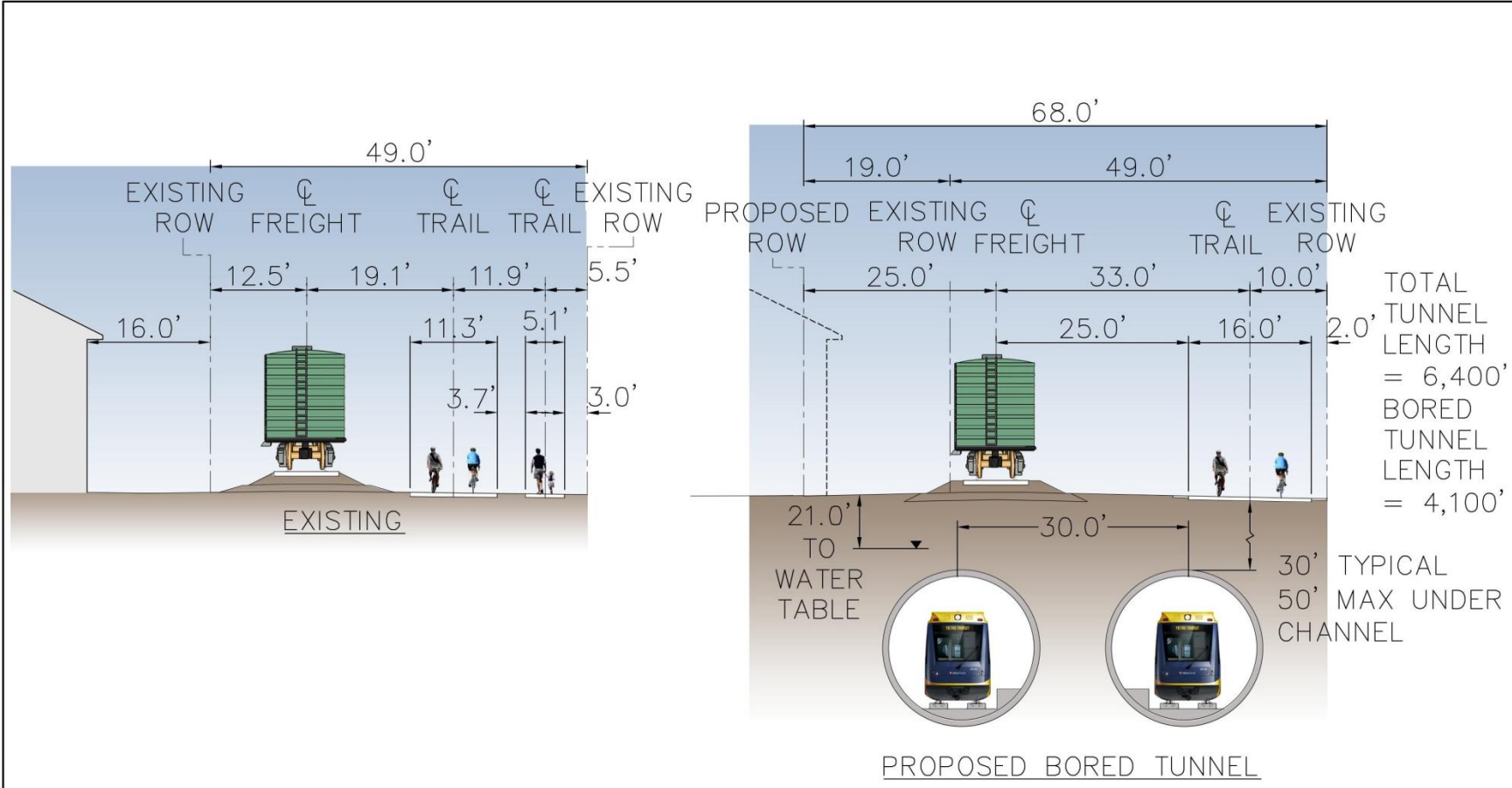


LRT in Shallow Tunnel - Typical Section B-B'



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LRT in Deep Twin Tunnels-Typical Section B-B'

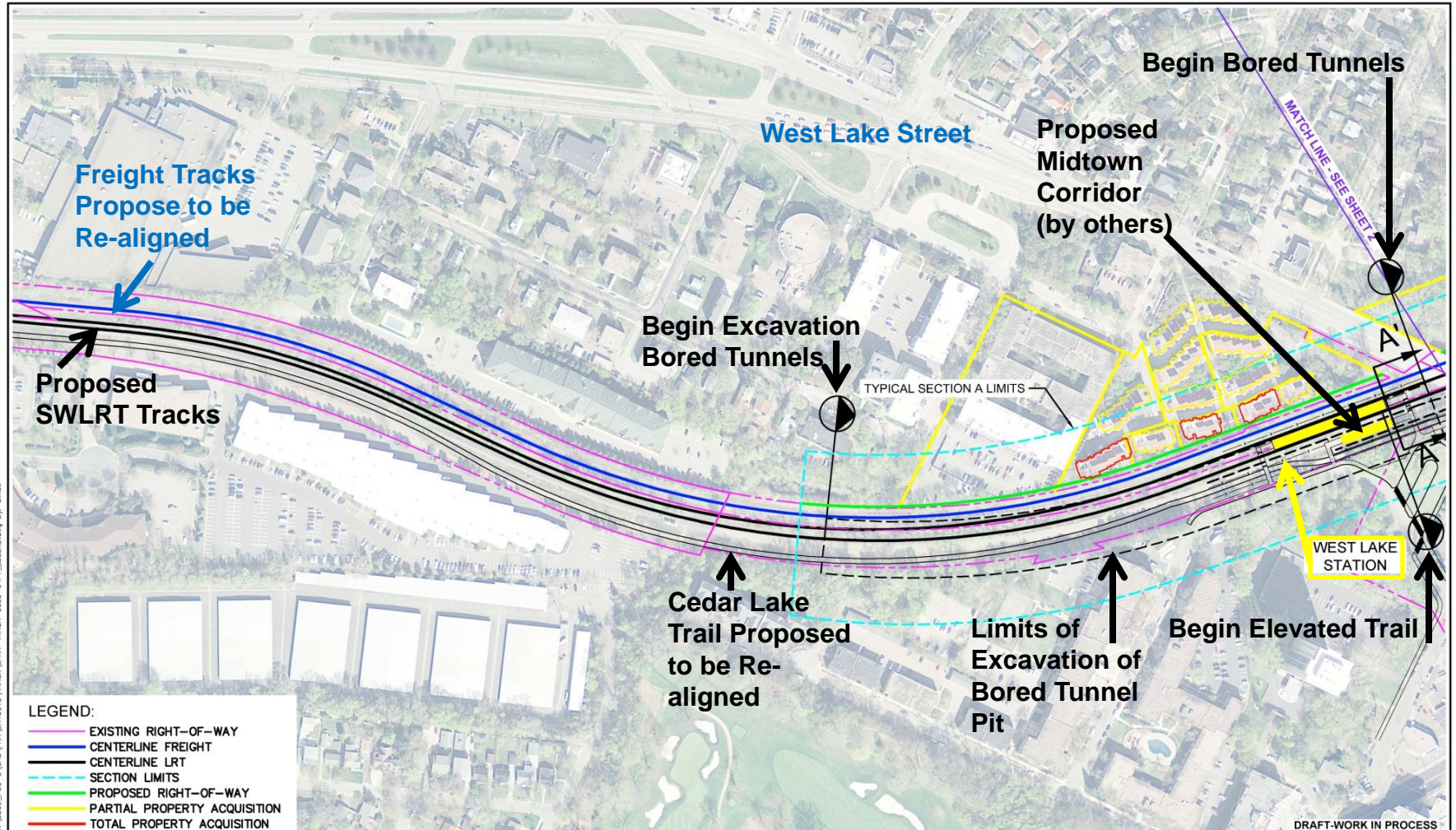


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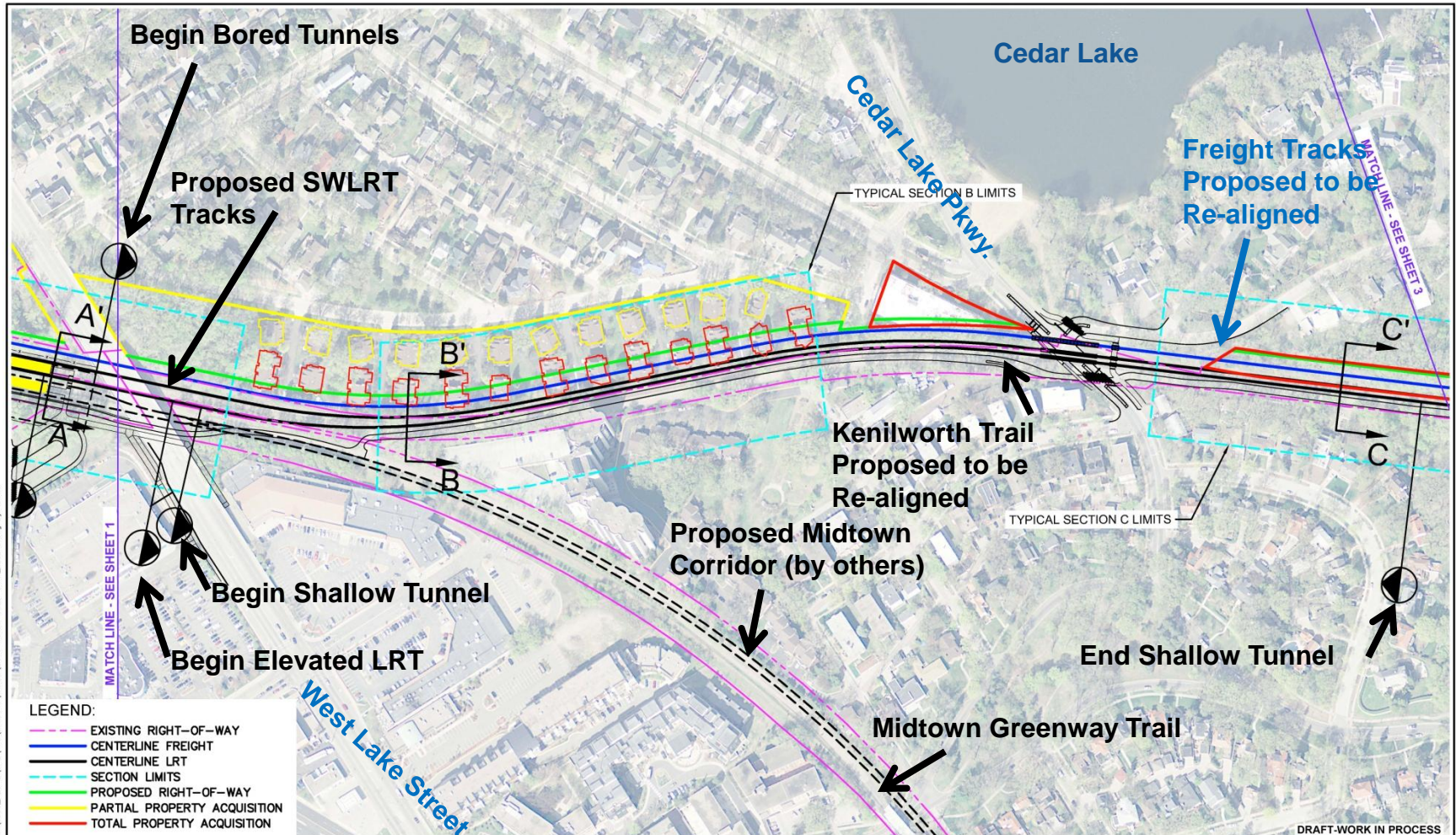


Freight Rail Co-Location – Kenilworth Corridor



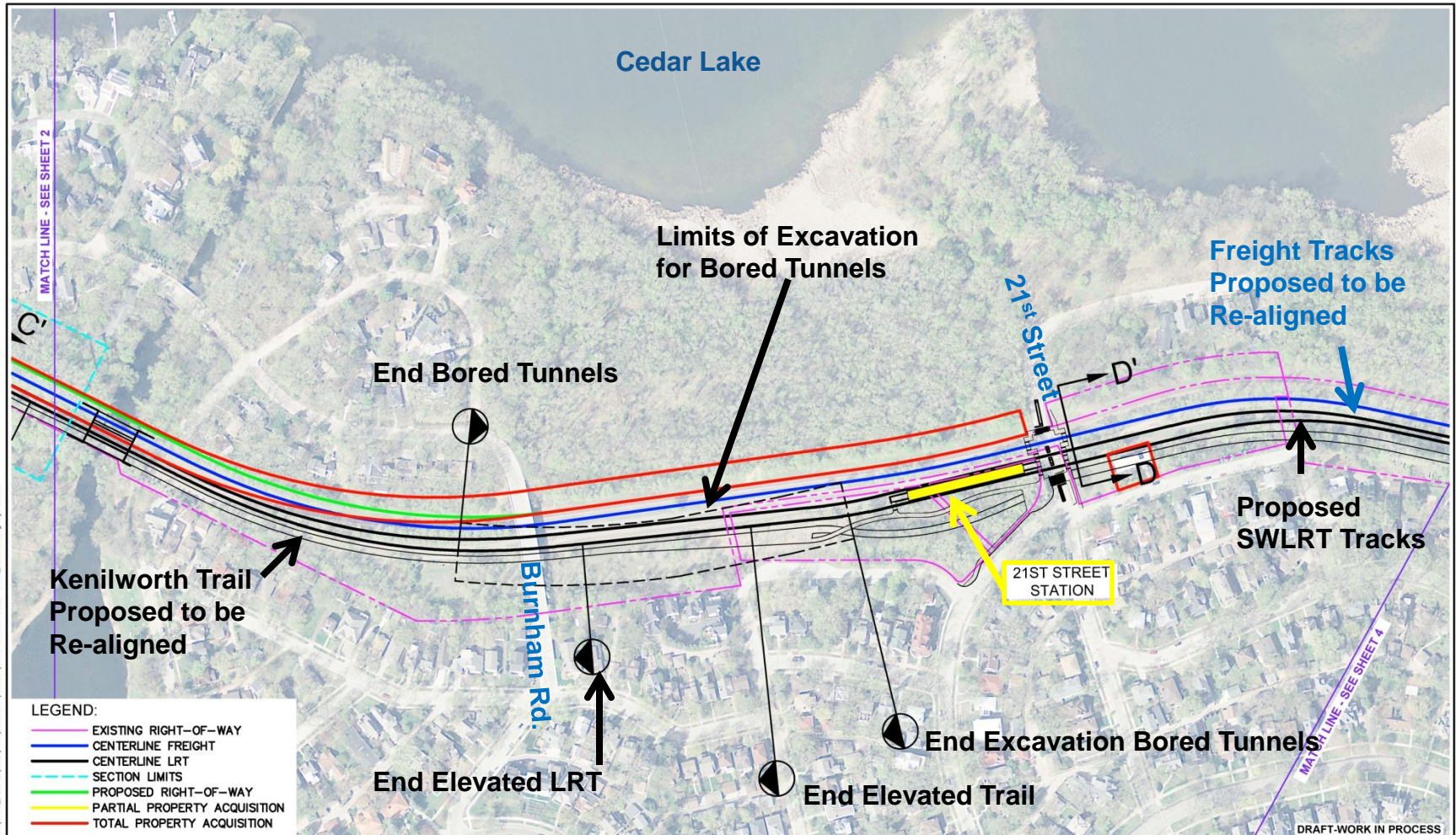


Freight Rail Co-Location – Kenilworth Corridor





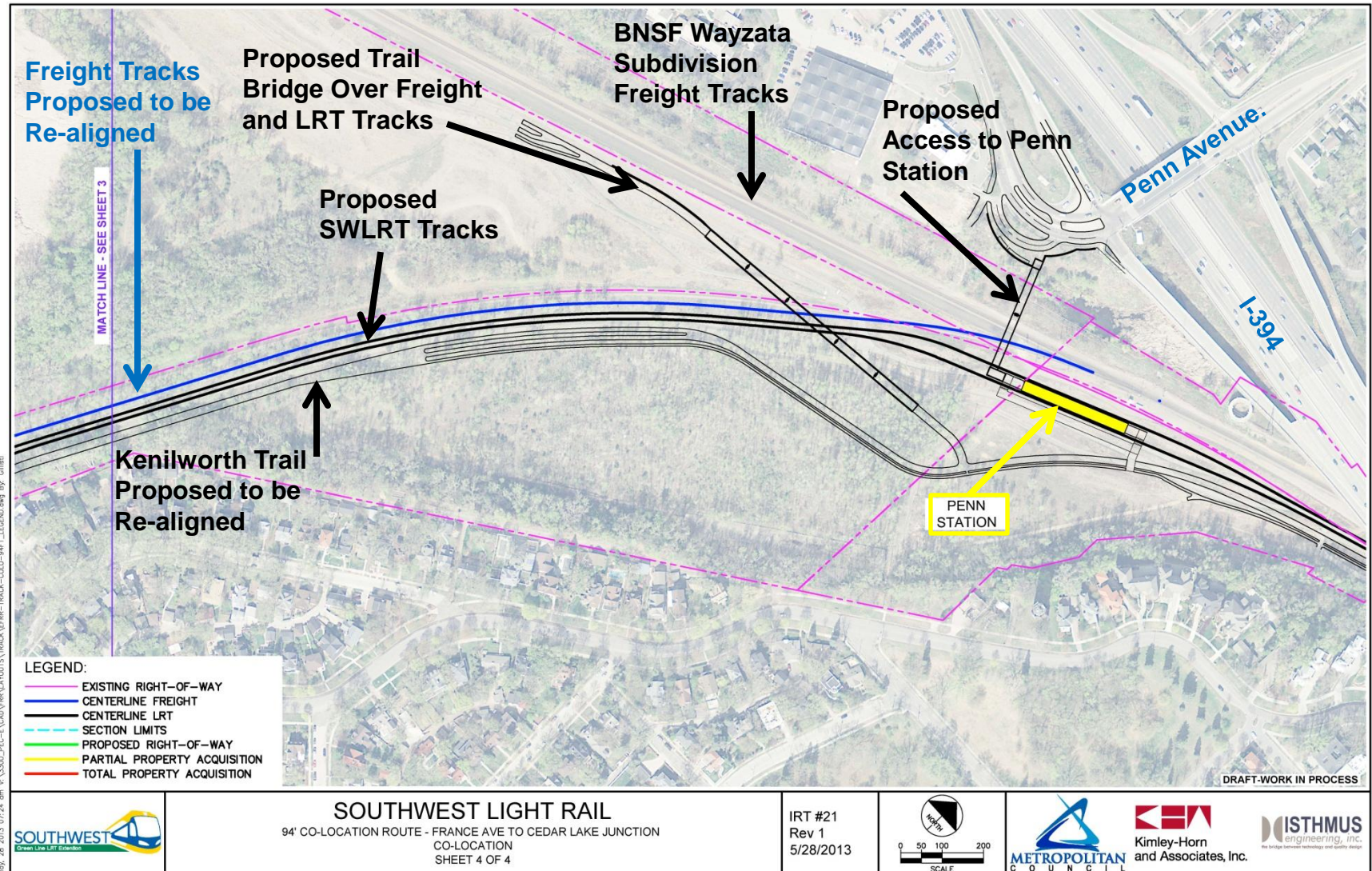
Freight Rail Co-Location – Kenilworth Corridor



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Freight Rail Co-Location – Kenilworth Corridor





Freight Rail Technical Issue #21

- Freight Rail Relocation Design Options
 - Modified MN&S connection
 - Brunswick West
 - Brunswick Central



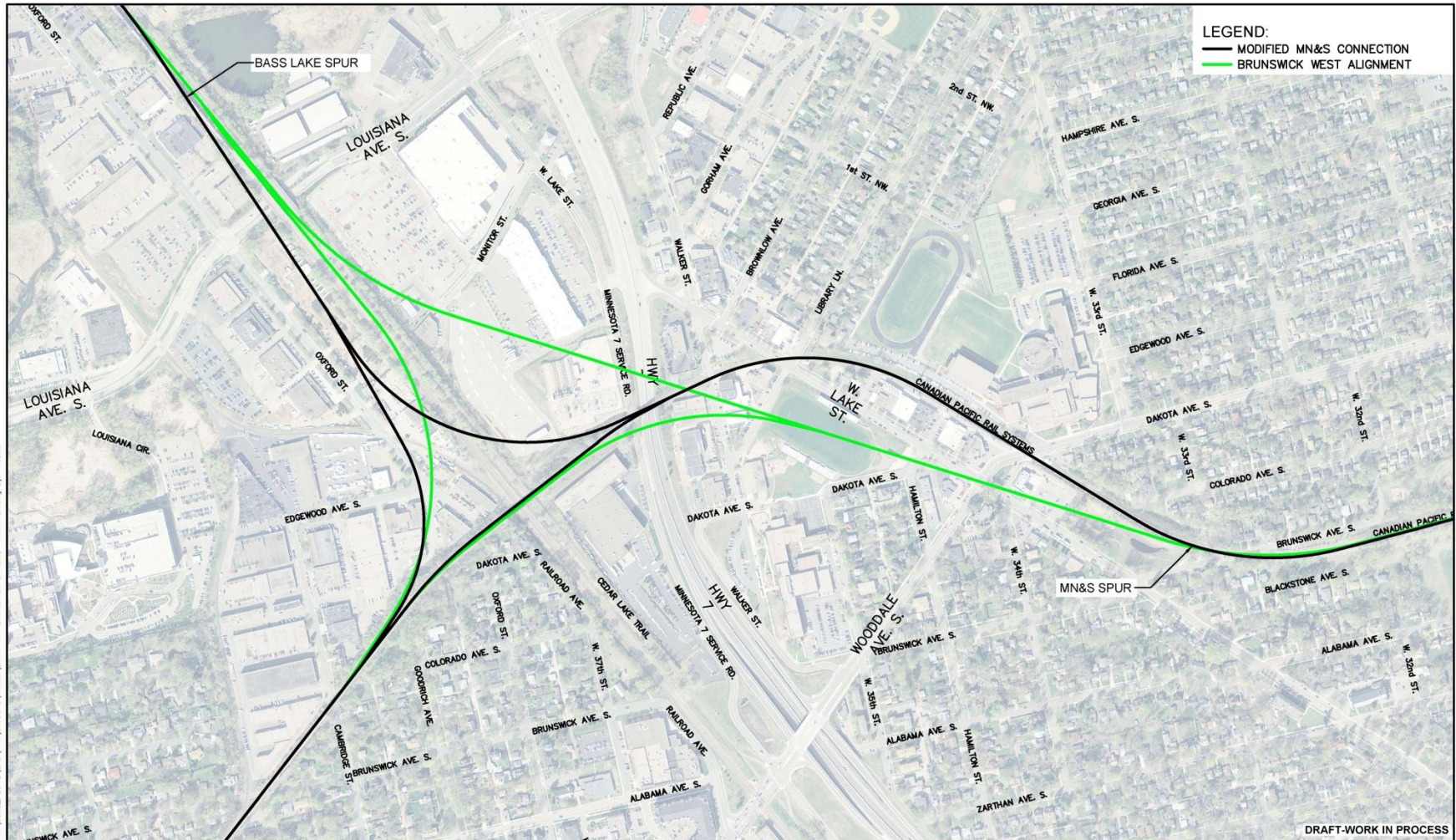
Modified MN&S Connection



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Brunswick West Alignment



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LEGEND:

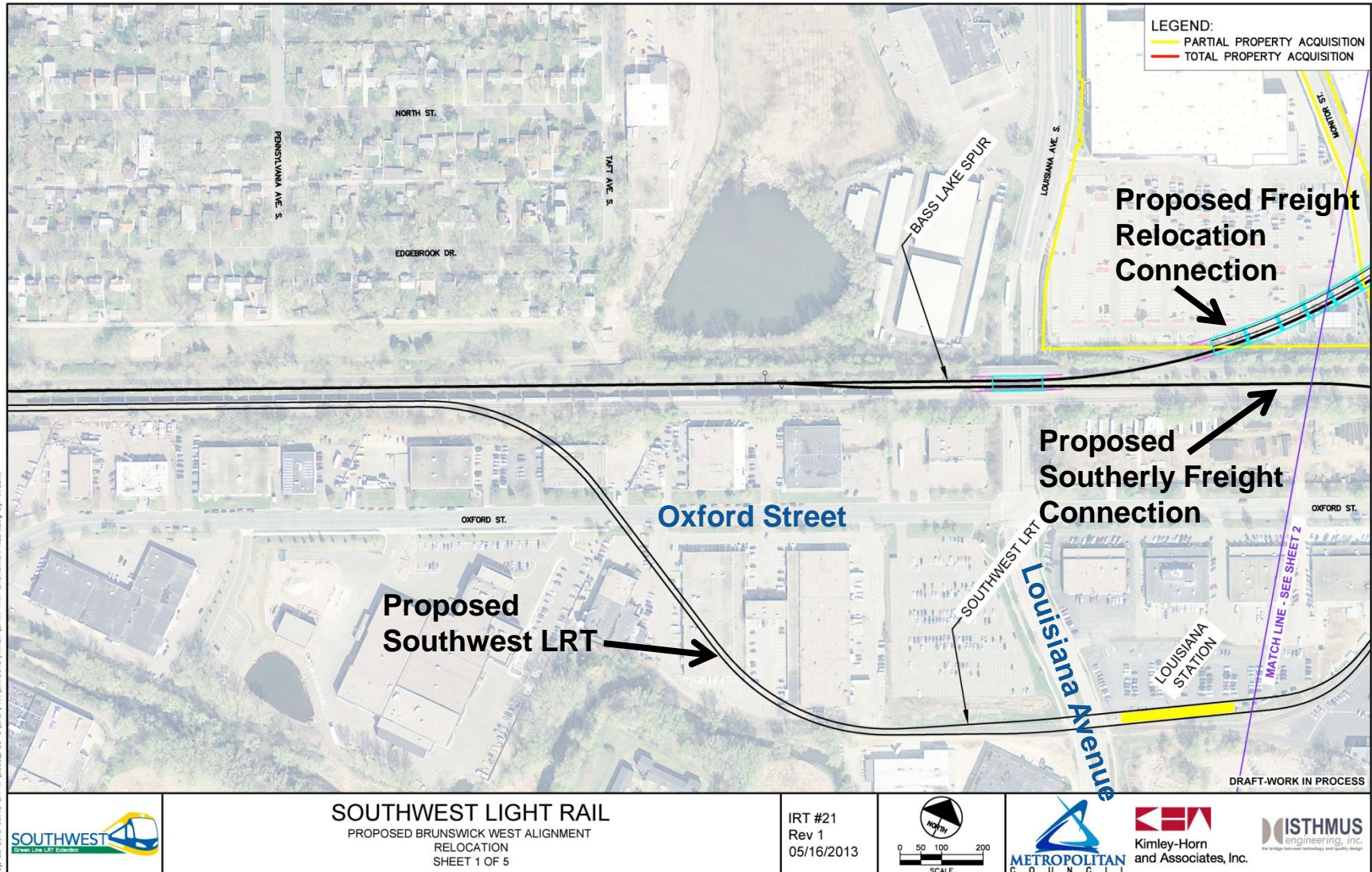
- MODIFIED MN&S CONNECTION
- BRUNSWICK WEST ALIGNMENT
- BRUNSWICK CENTRAL ALIGNMENT

WOODDALE, IL

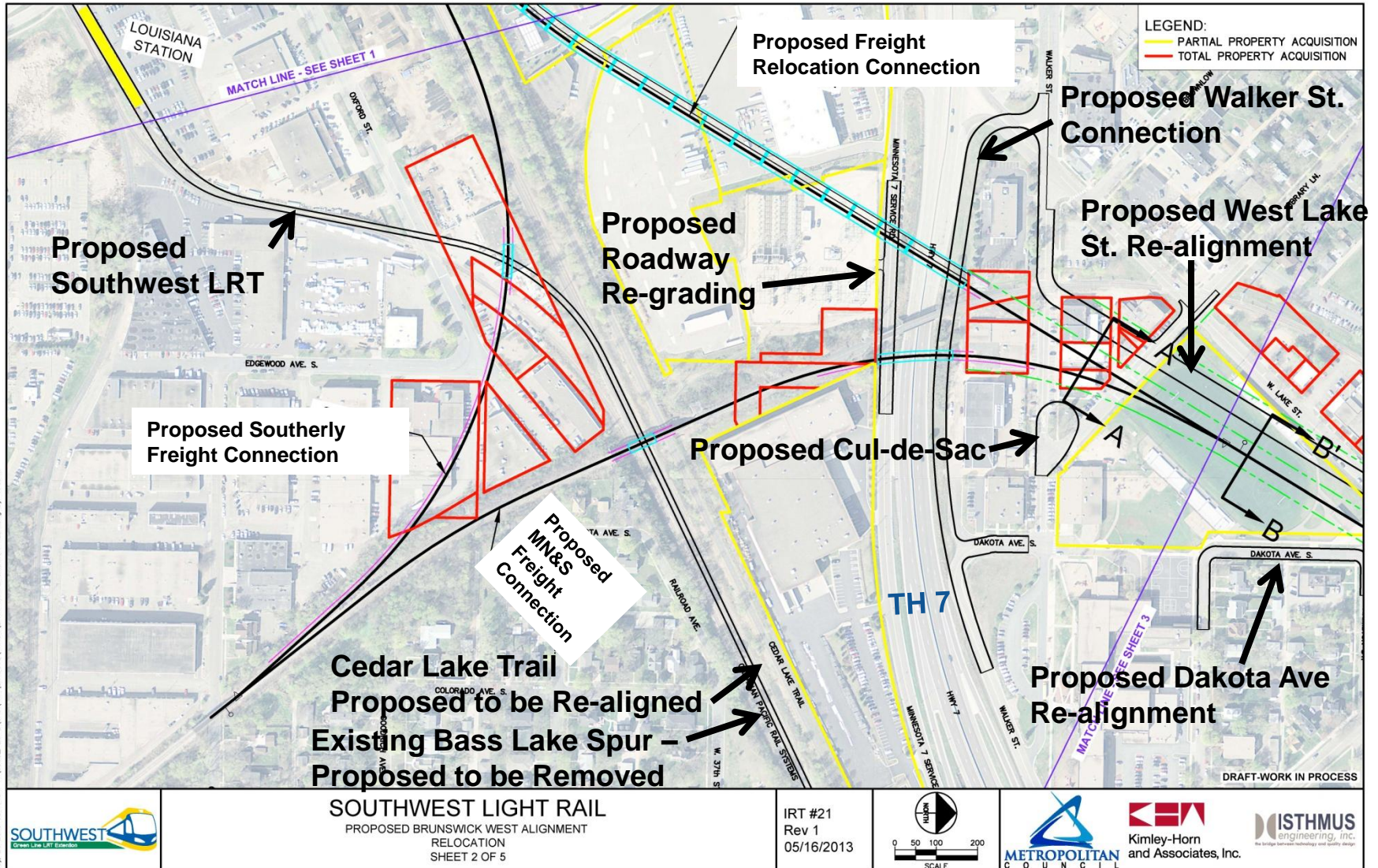
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Brunswick West Alignment

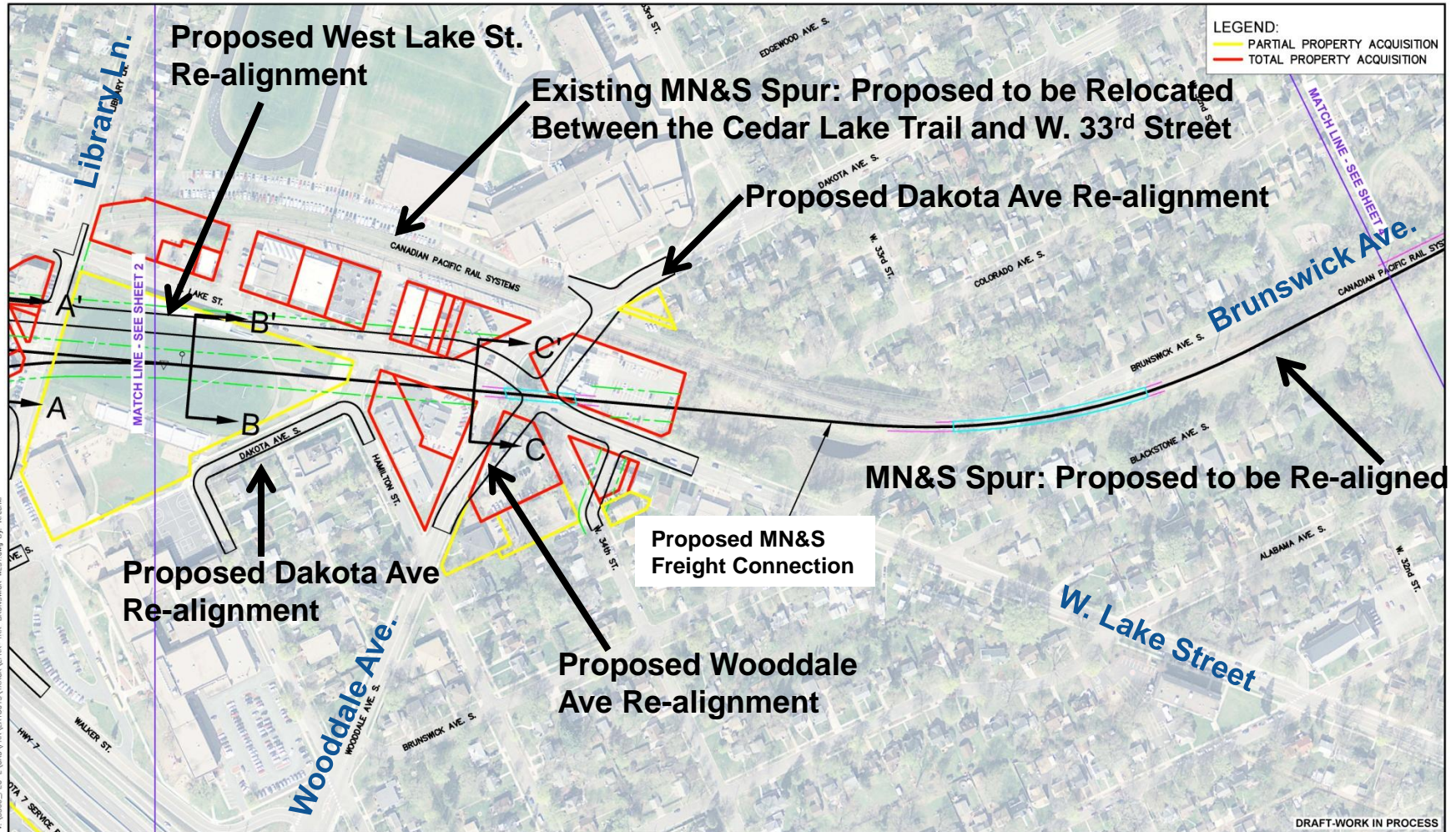


Brunswick West Alignment



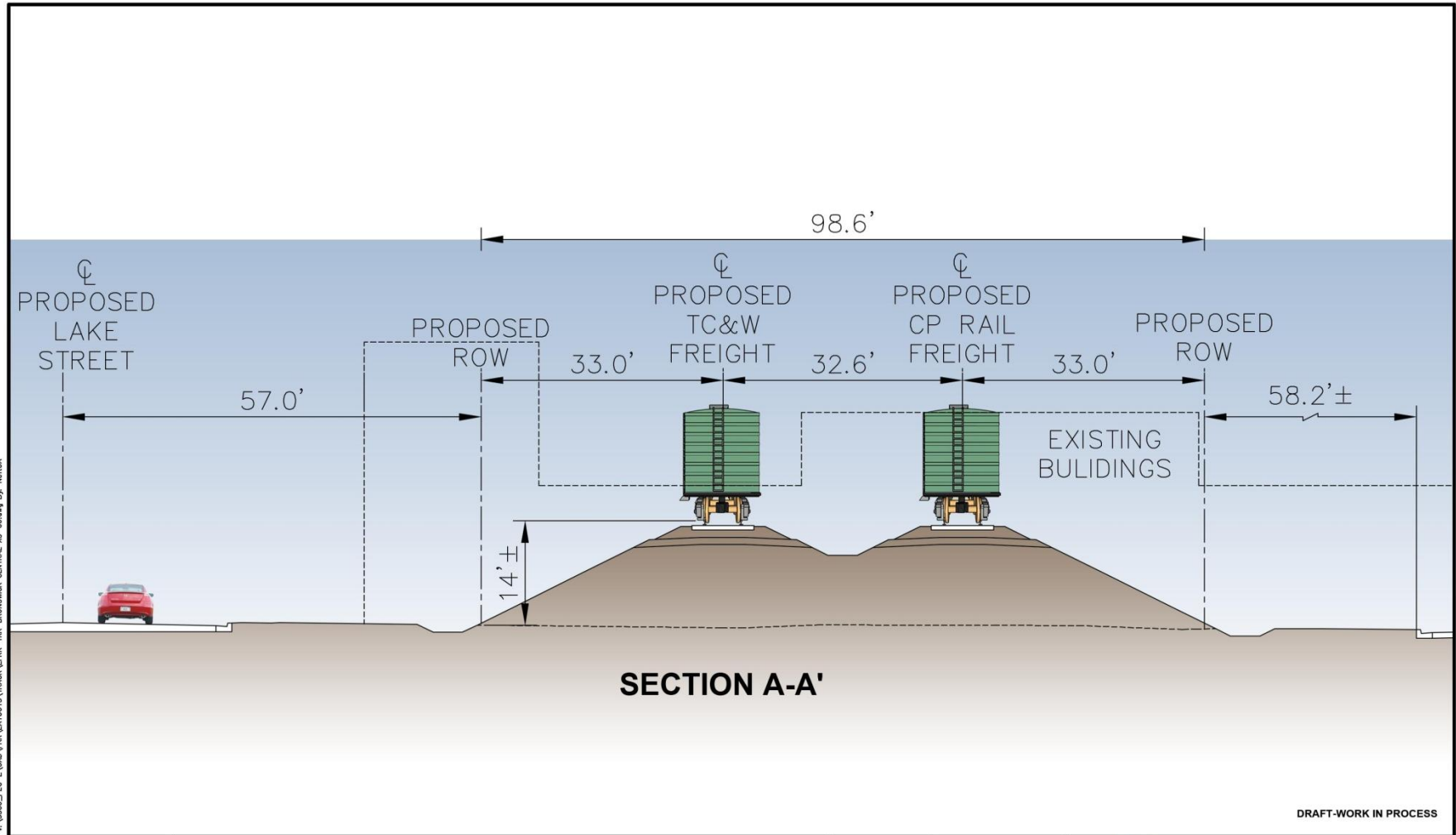


Brunswick West Alignment



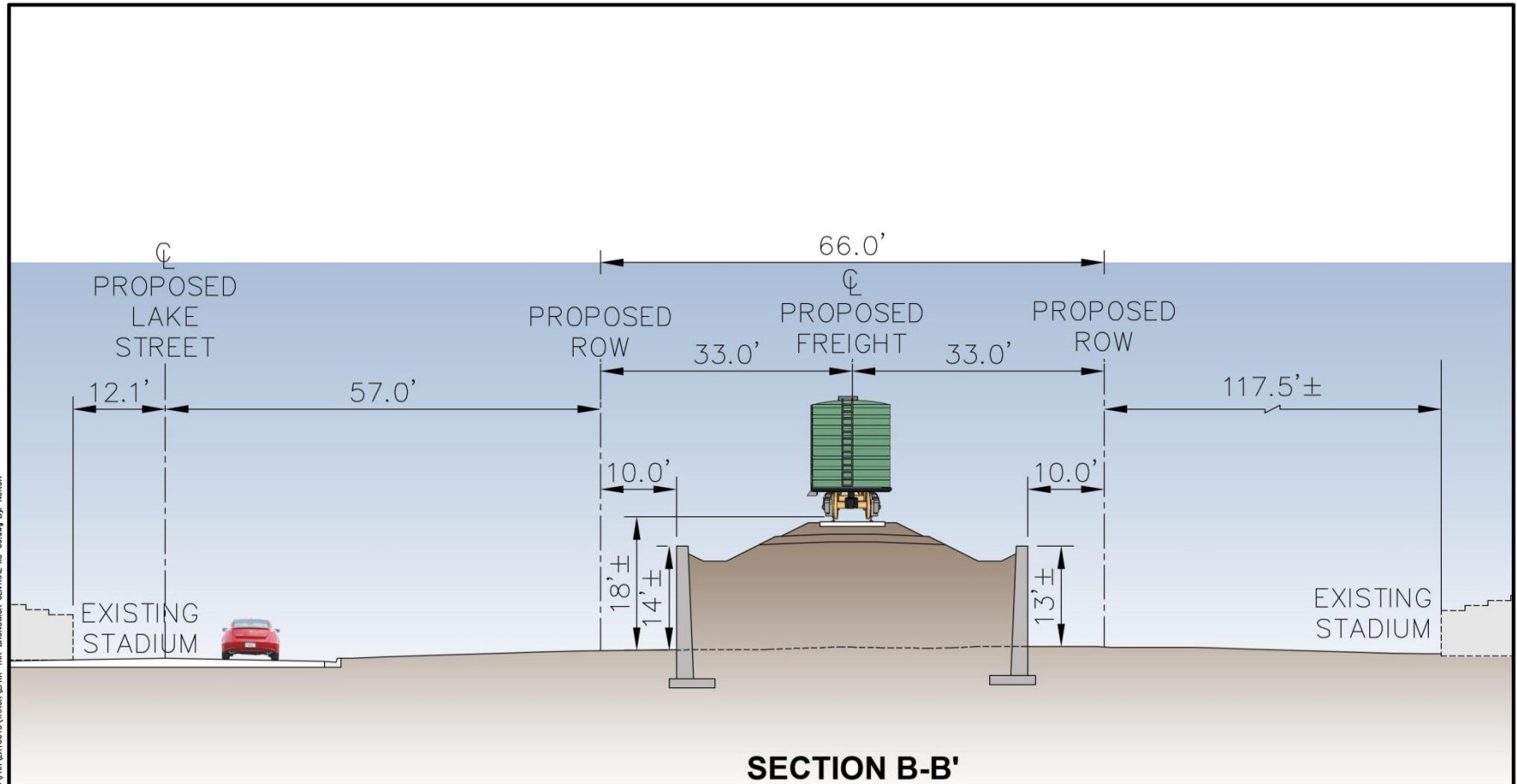


Brunswick West Alignment – Typical Section A-A'



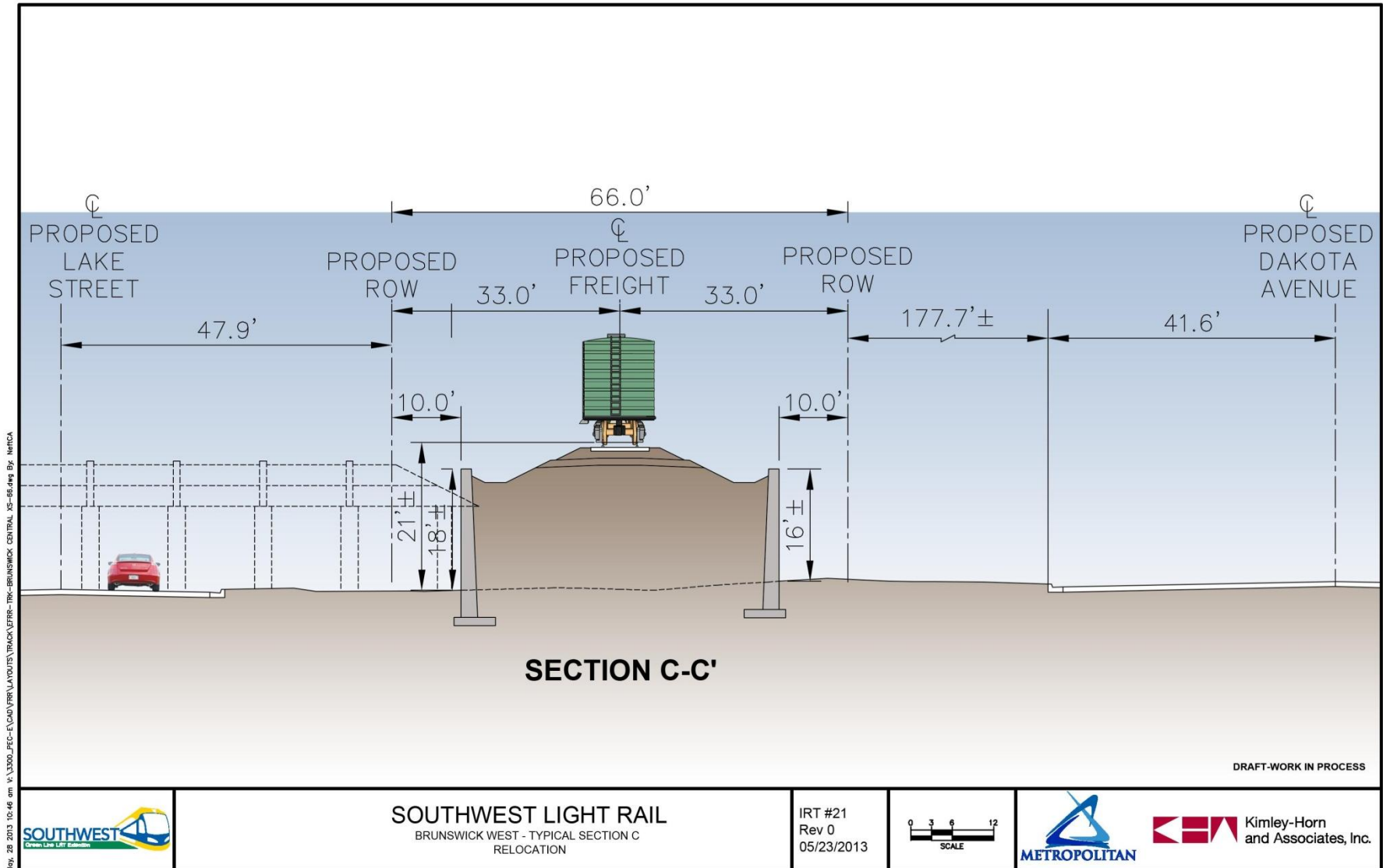


Brunswick West Alignment – Typical Section B-B'



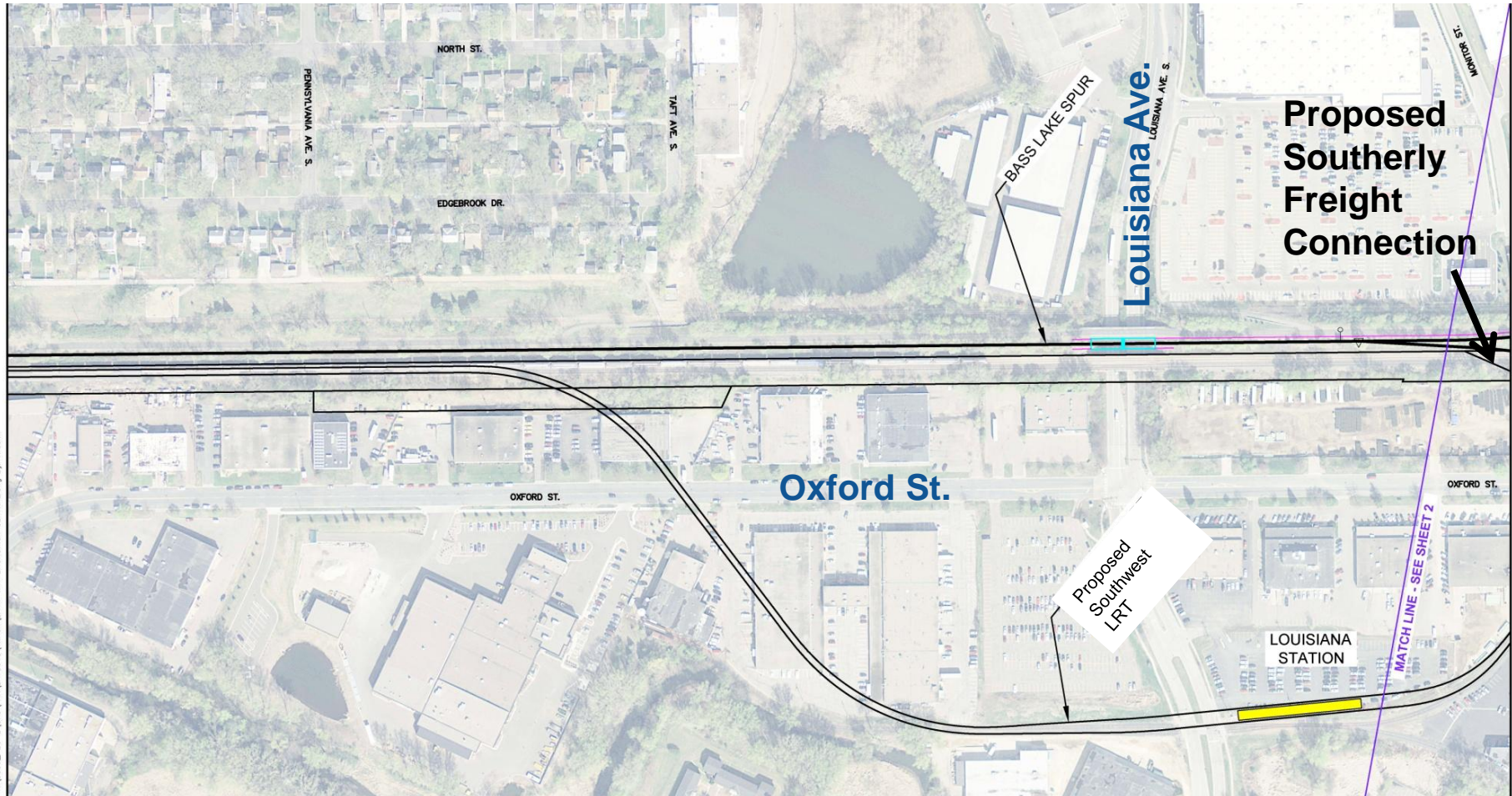
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Brunswick West Alignment – Typical Section C-C'



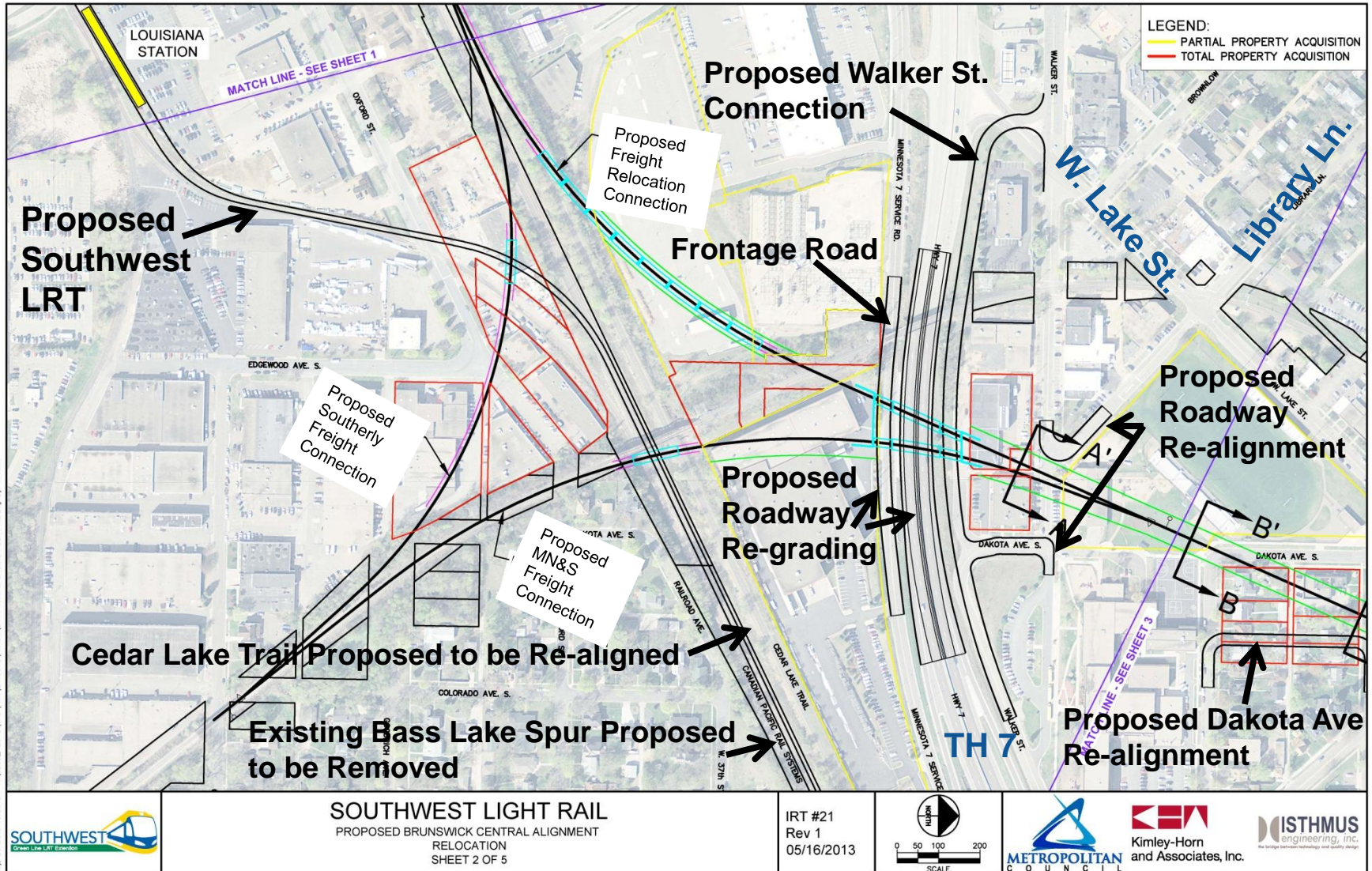


Brunswick Central Alignment



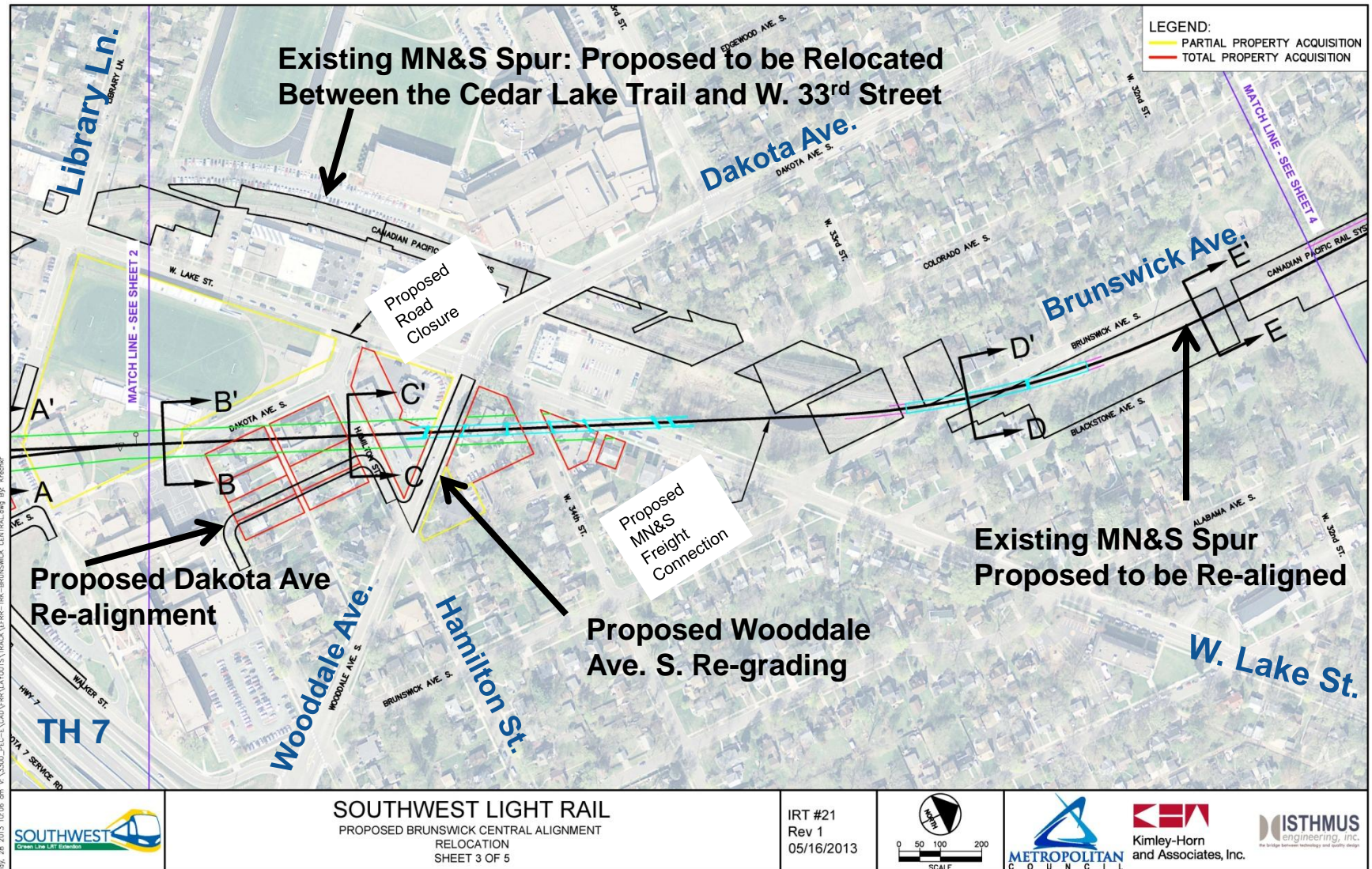


Brunswick Central Alignment



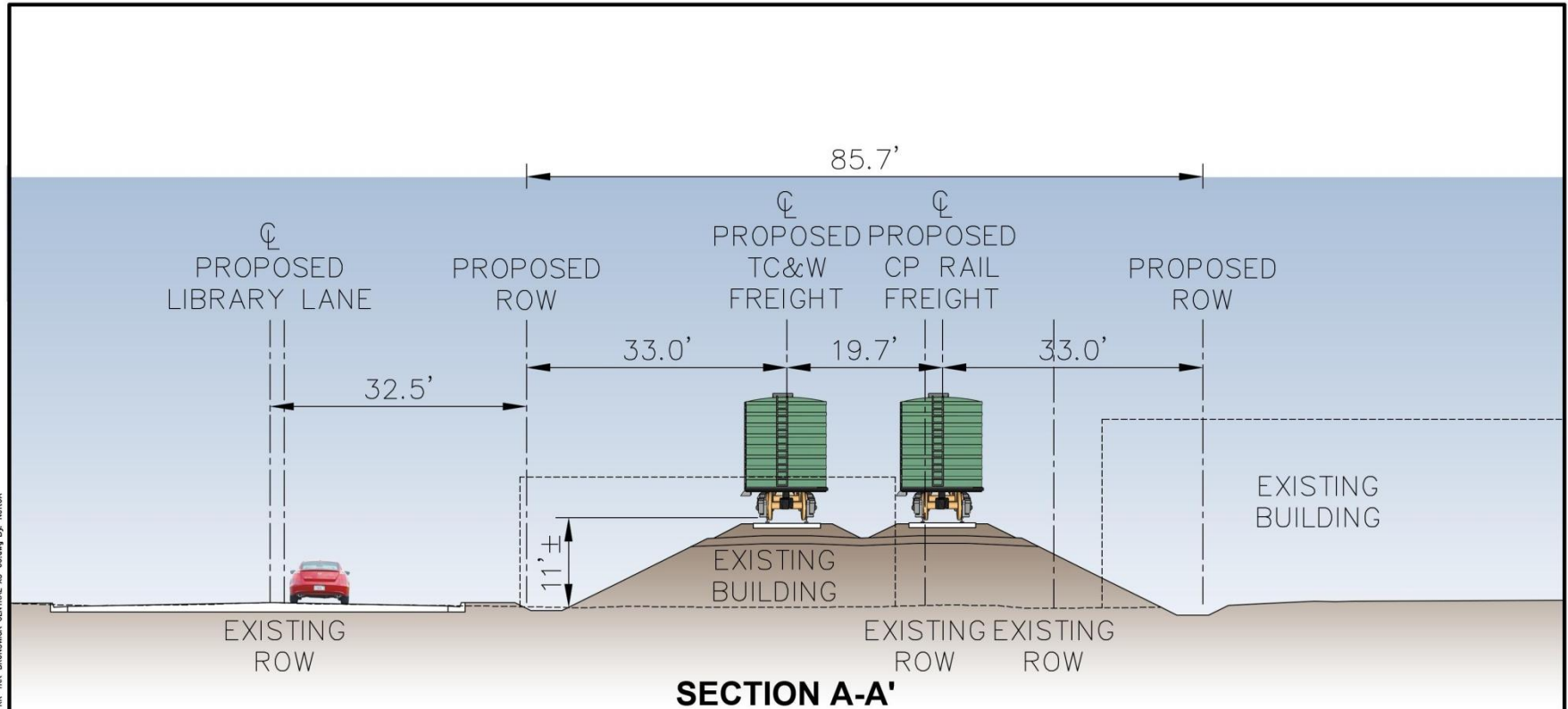


Brunswick Central Alignment





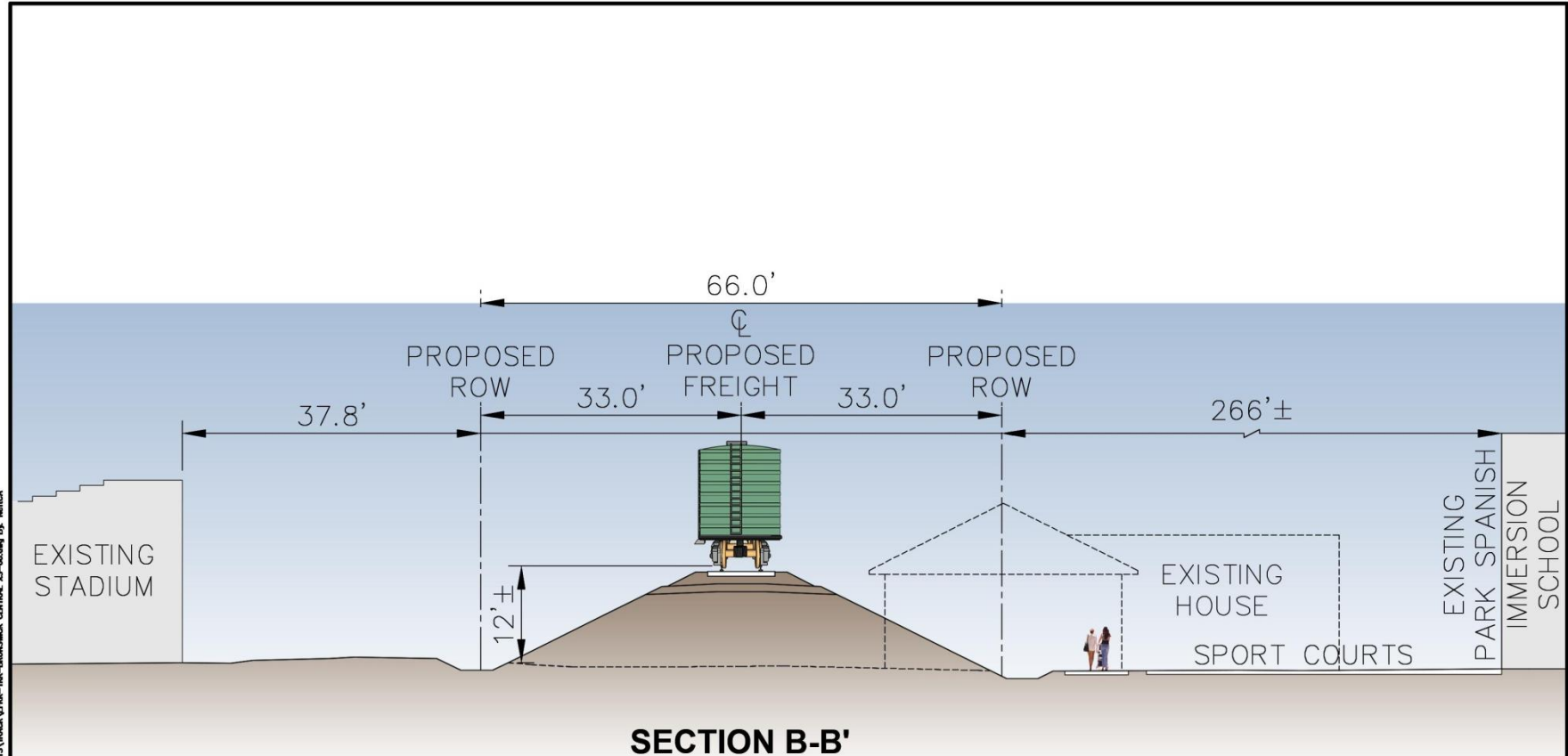
Brunswick Central Alignment – Typical Section A-A'



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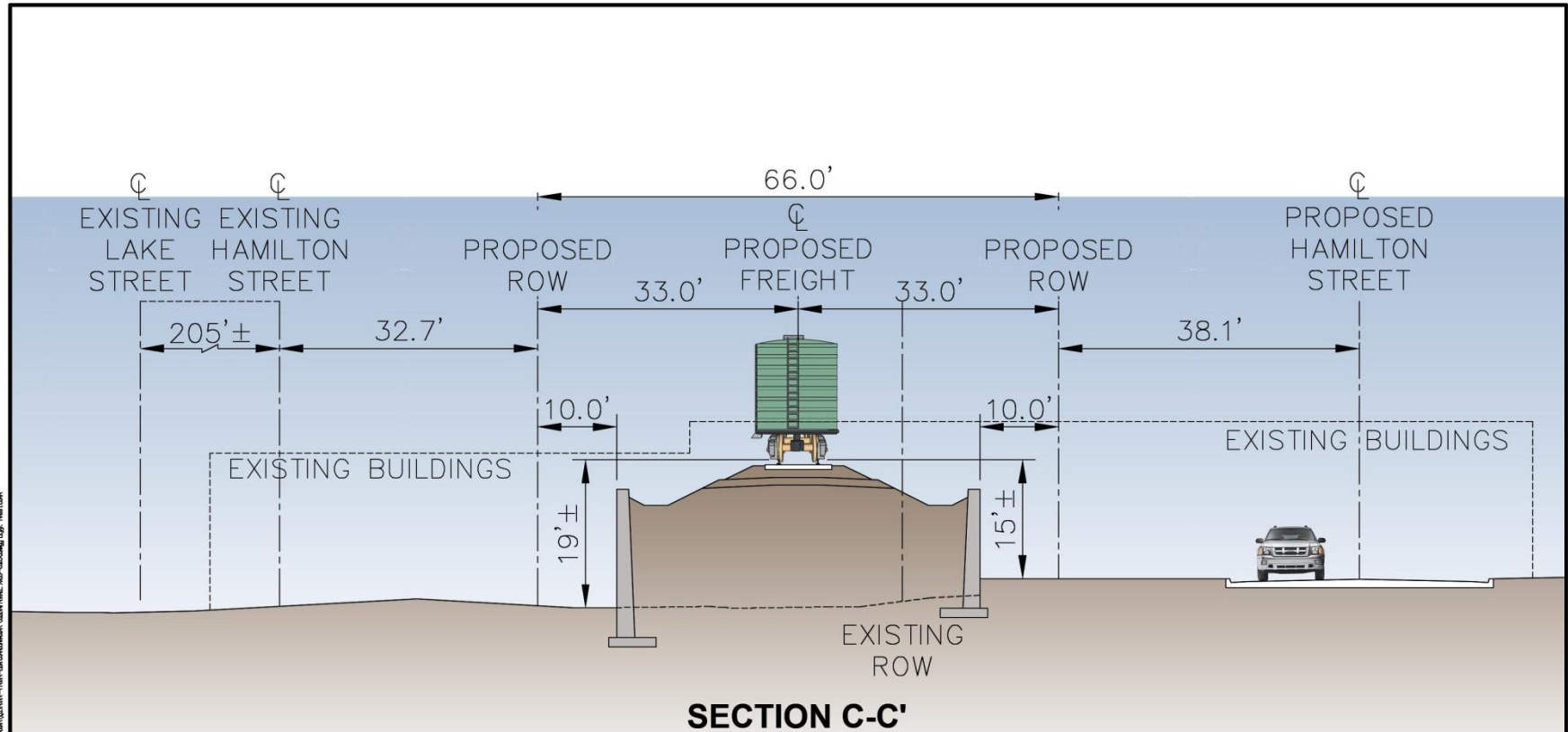
Brunswick Central Alignment – Typical Section B-B'



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Brunswick Central Alignment – Typical Section C-C'



SECTION C-C'

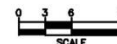
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SOUTHWEST LIGHT RAIL
BRUNSWICK CENTRAL - TYPICAL SECTION C
RELOCATION

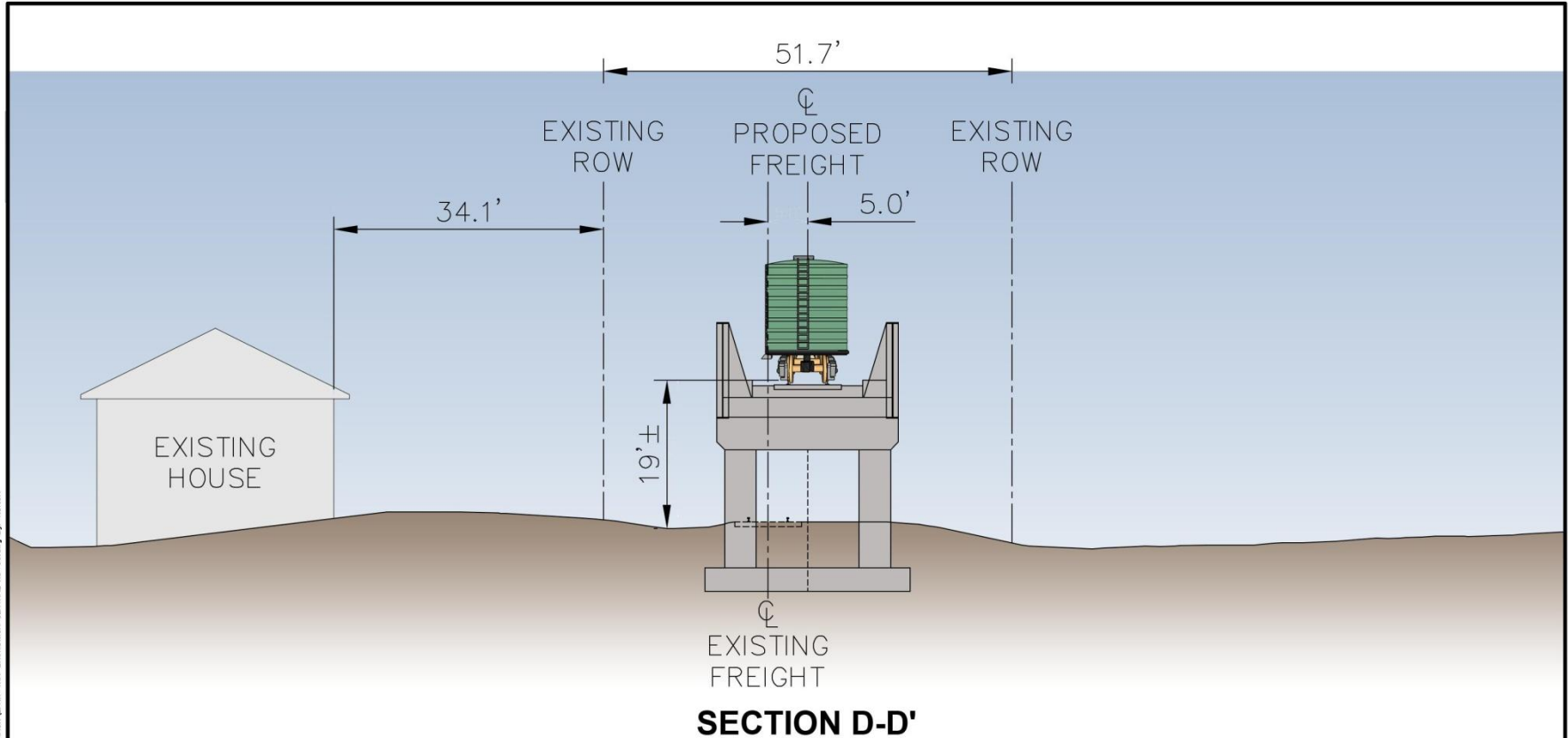
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05/23/2013



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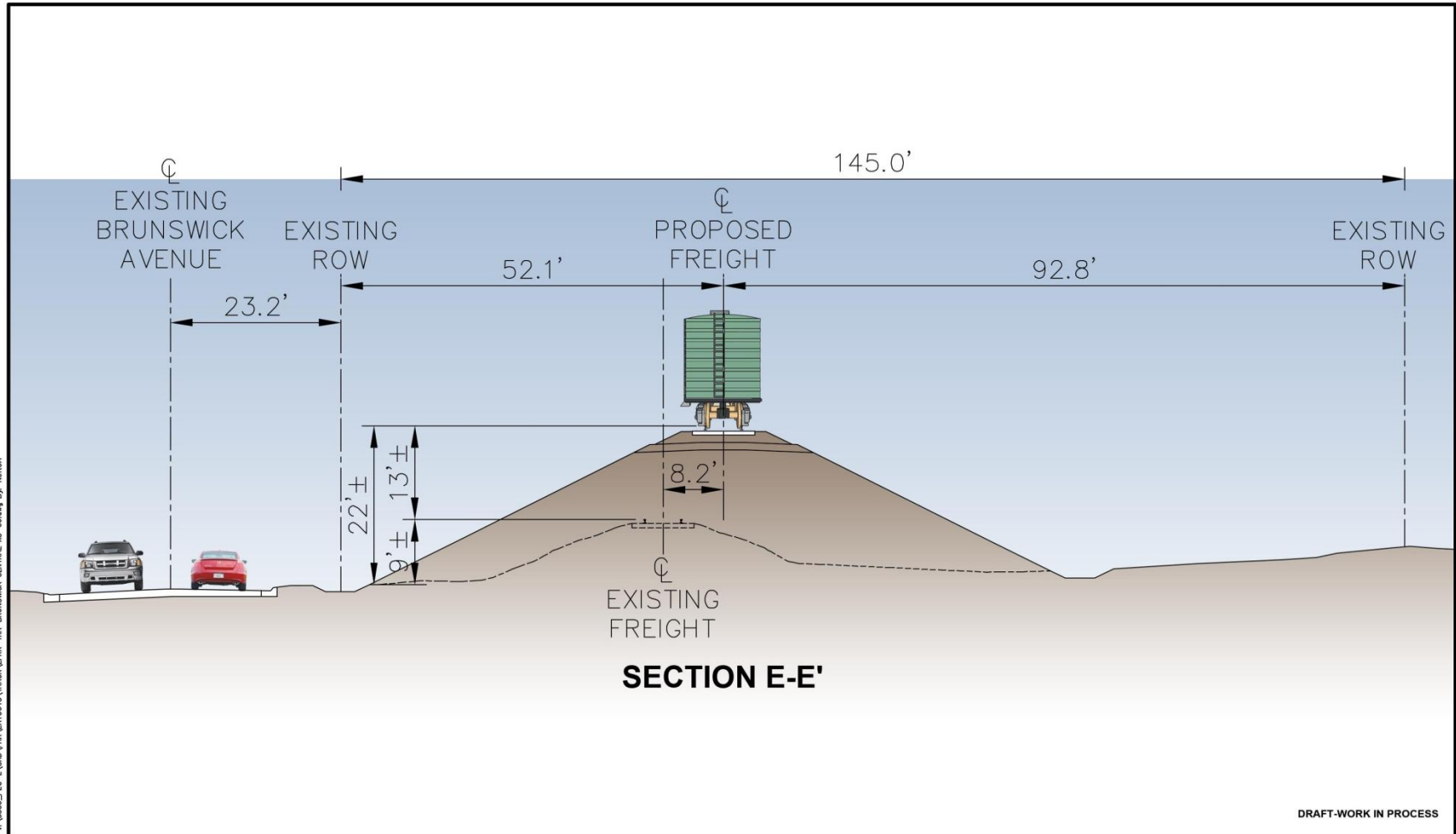
Brunswick Central Alignment – Typical Section D-D'



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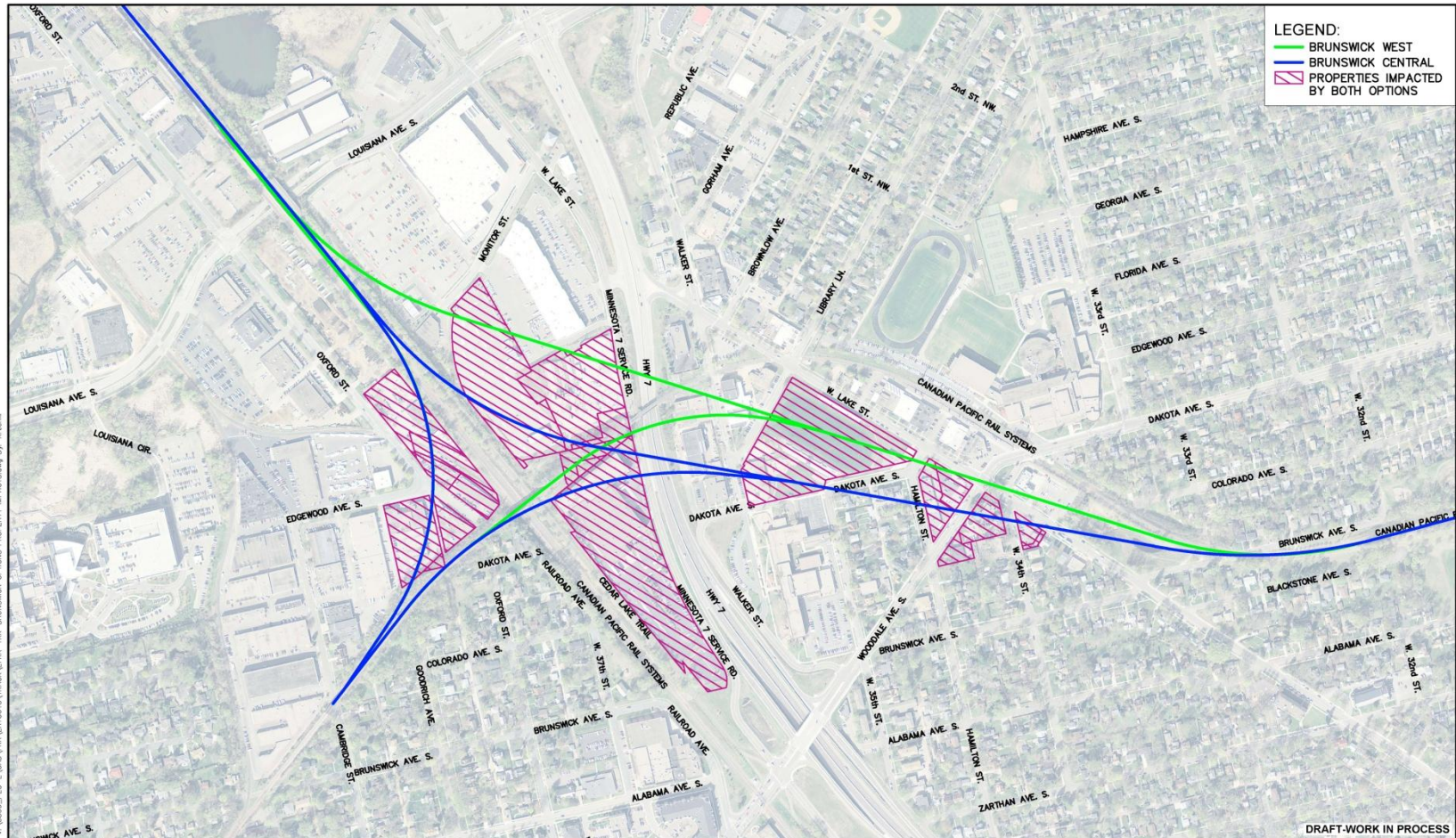
Brunswick Central Alignment – Typical Section E-E'



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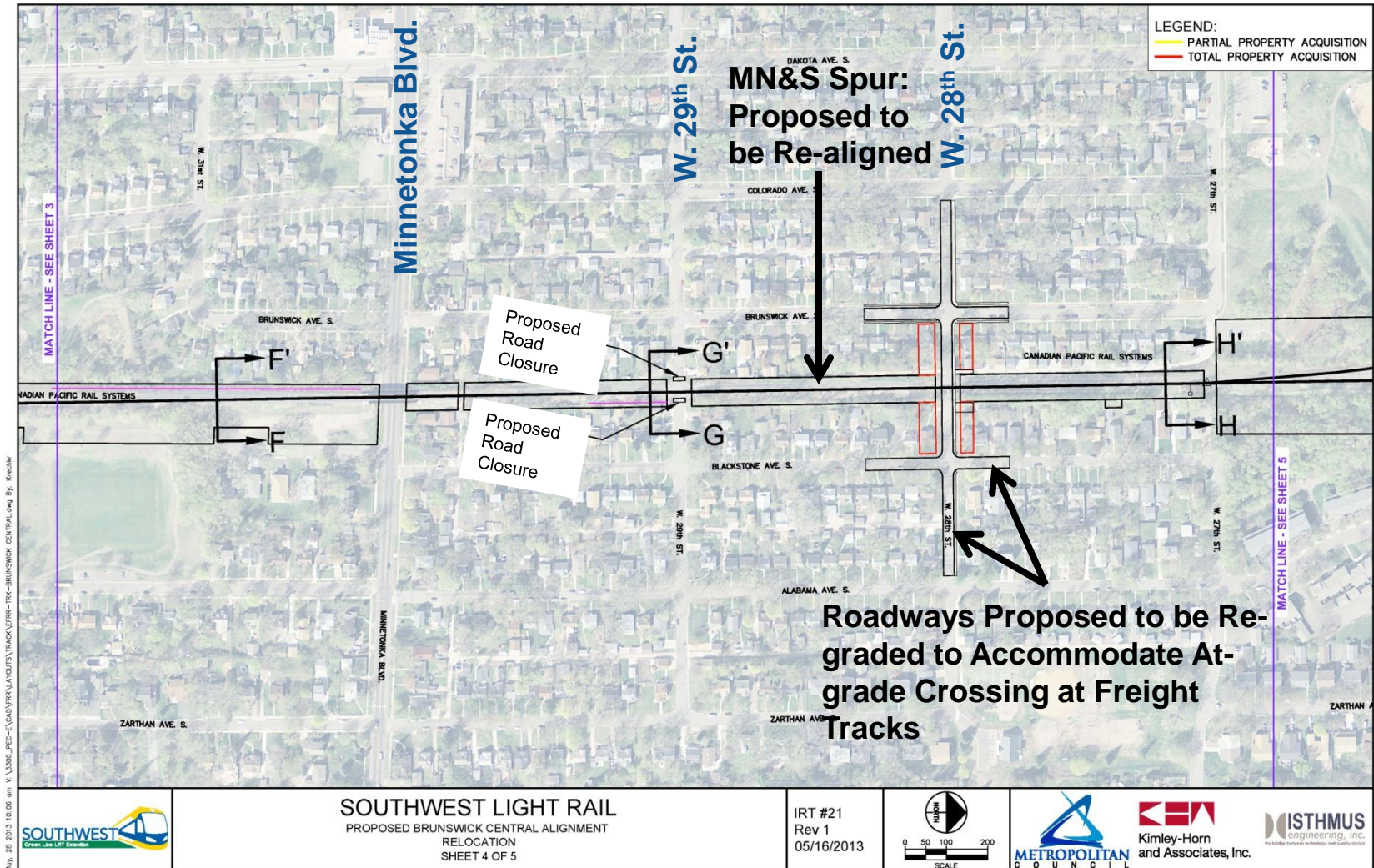


Brunswick West/Central Alignments: Property Impacts Common to Both Options



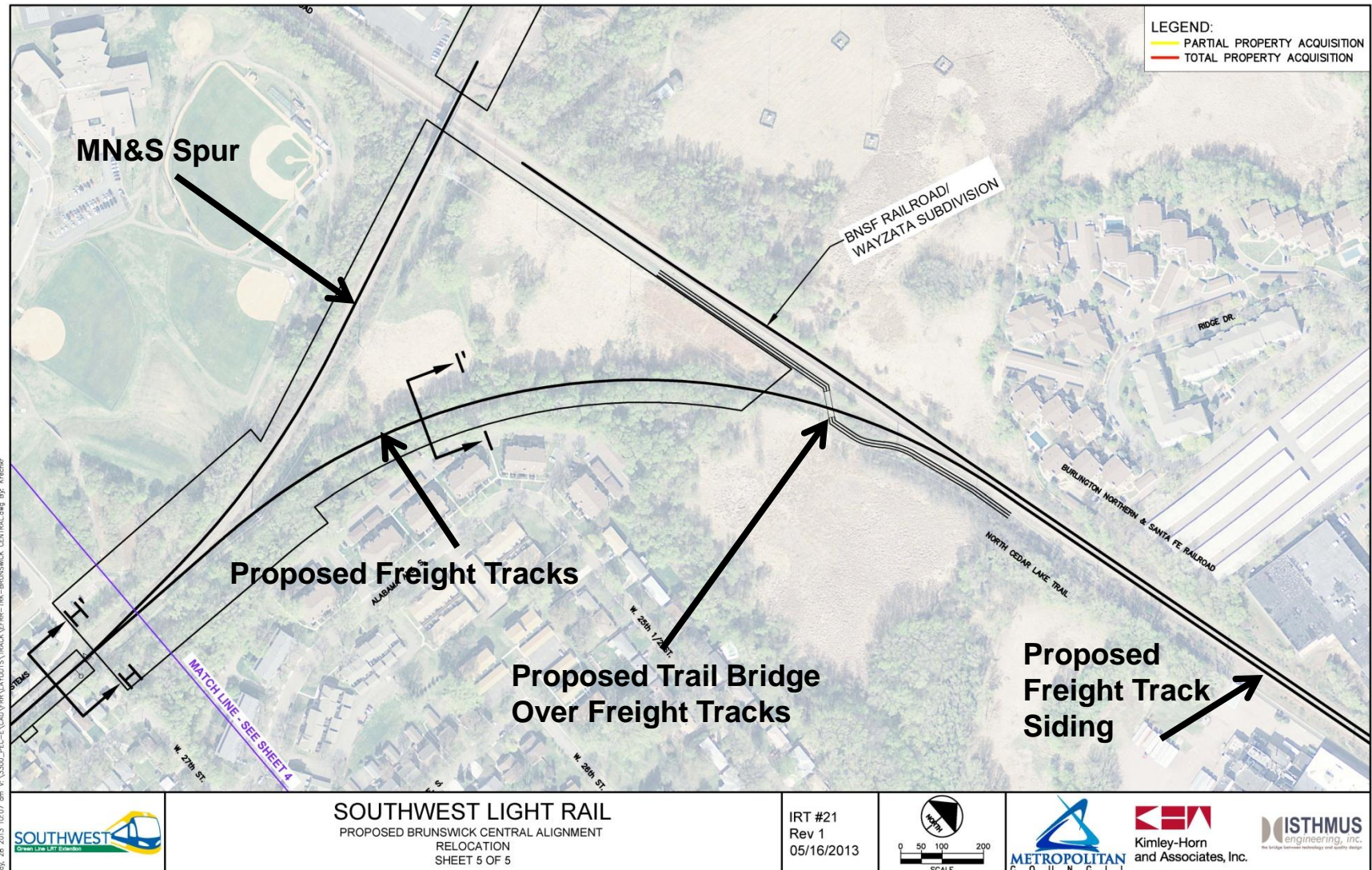


Brunswick Alignment: Segment Common to Both West and Central Options



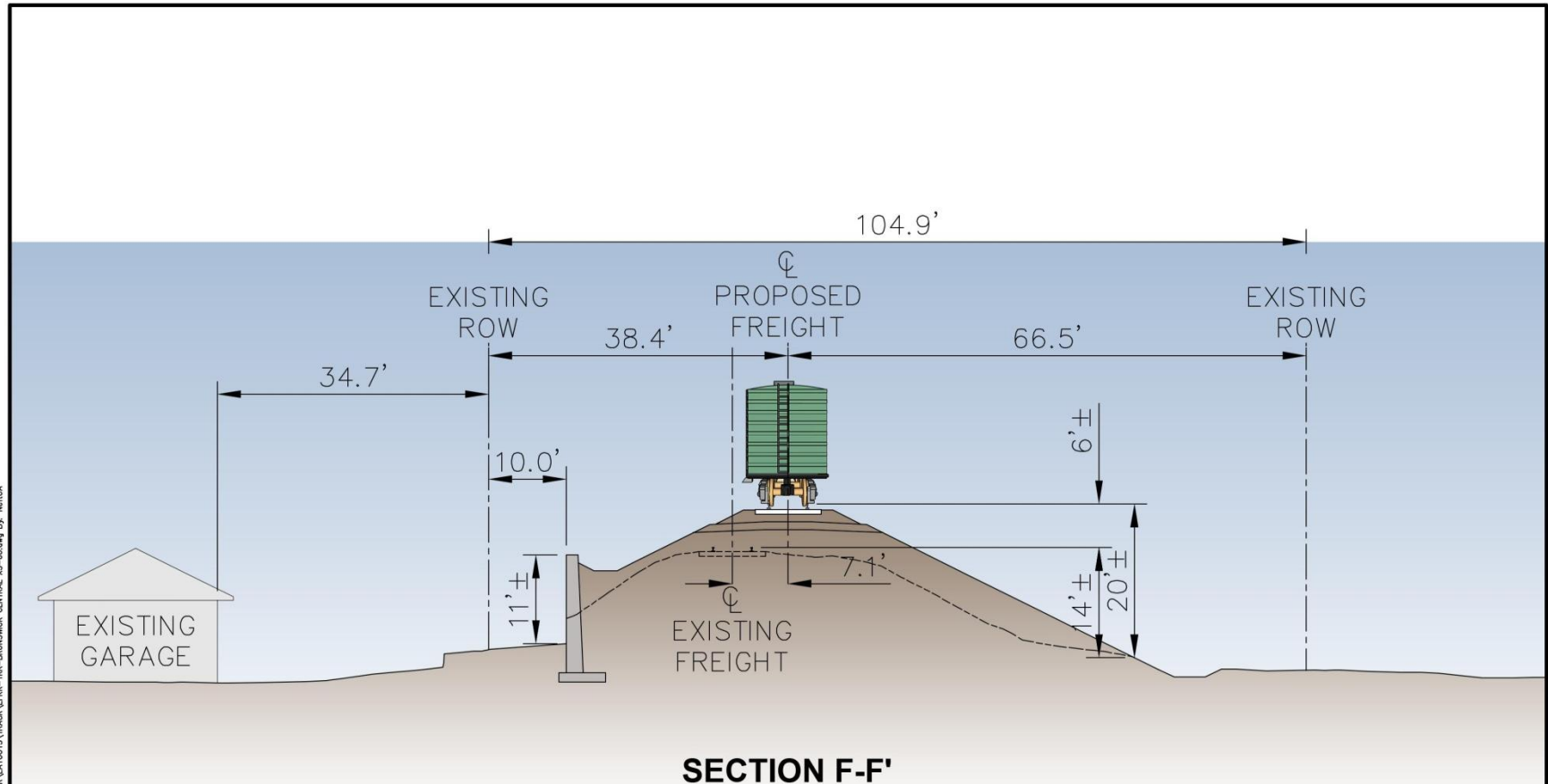
Brunswick Alignment

Segment Common to Both West and Central Options





Brunswick Alignment – Typical Section F-F'



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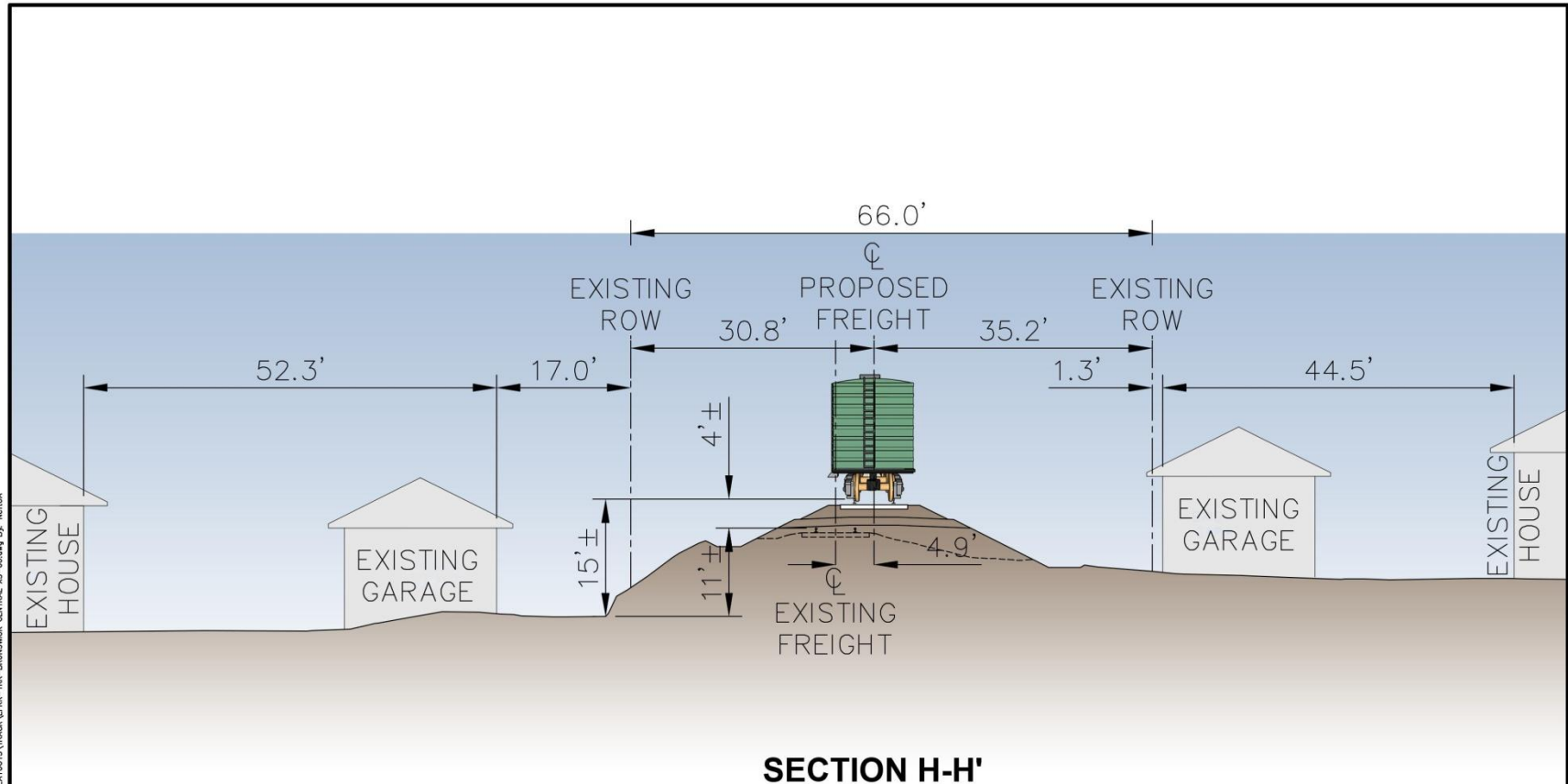
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SECTION G-G'

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Brunswick Alignment – Typical Section H-H'



SECTION H-H'

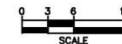
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SOUTHWEST LIGHT RAIL
BRUNSWICK CENTRAL - TYPICAL SECTION H
RELOCATION

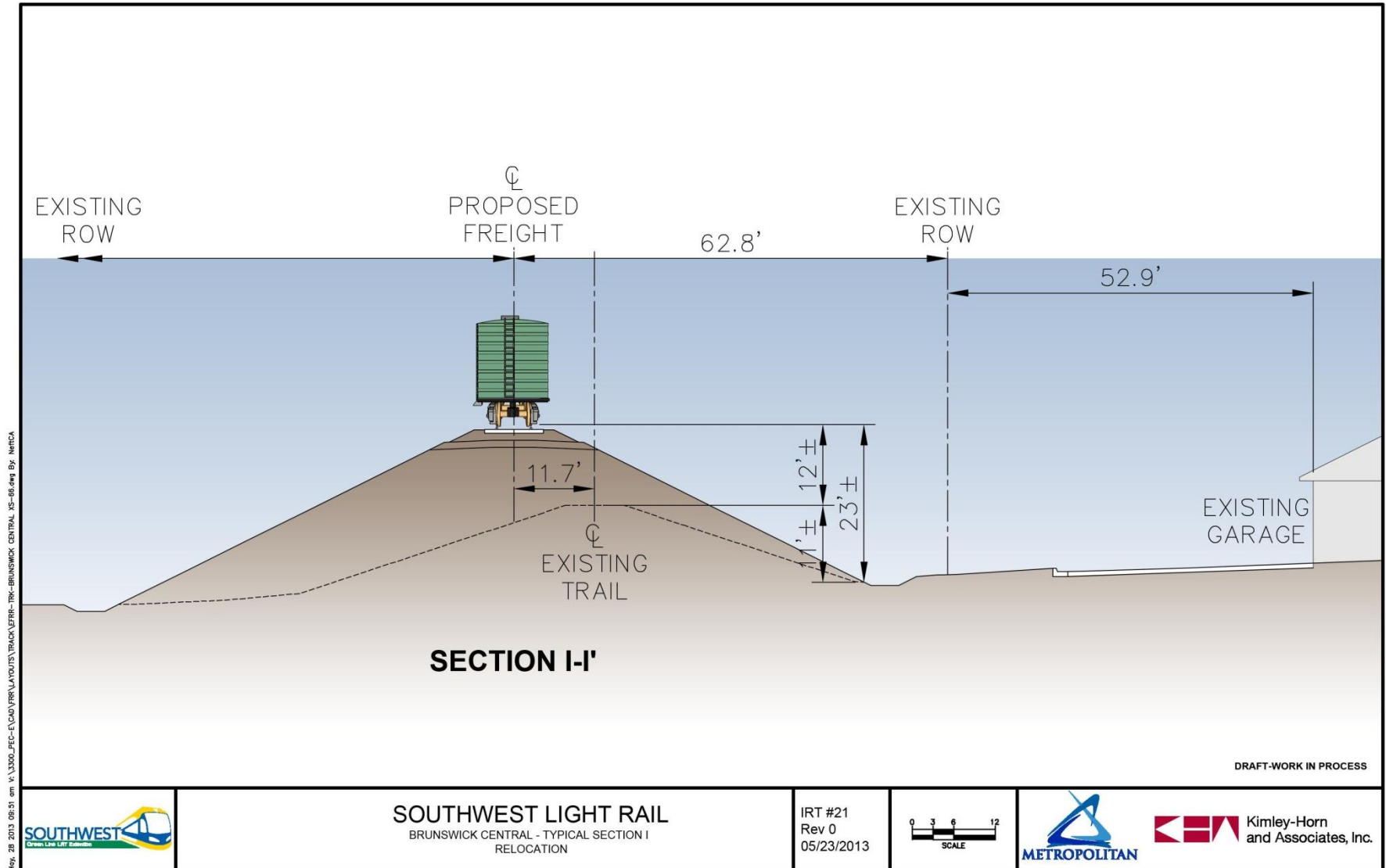
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05/23/2013



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and Associates, Inc.



Brunswick Alignment – Typical Section I-I'



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Freight Rail Technical Issue #21

Next Steps

- Review co-location and relocation designs / seek input
 - St. Louis Park School Board – May 28
 - Minneapolis Transportation & Public Works Committee – June 4
 - Special Joint SWLRT Business/Community Advisory Cmt. – June 6
 - SWLRT Corridor Management Committee – June 12
 - Public Open Houses – June 13
- Develop cost estimates / Continue design refinement – environmental evaluation – June/July
- Present recommended design option
 - Business Advisory Committee – July 24
 - Community Advisory Committee – July 25
 - SWLRT Corridor Management Committee – August 7
 - Metropolitan Council – August
- Continue design refinement – environmental evaluation



A Look Ahead: Design & Engineering

- June 2013: Hold Station Public Open Houses
- Q3 2013: Submit Municipal Consent SWLRT Plans for City Review
- Q4 2013: Complete Municipal Consent Approval Process
- Q1 2014: Finalize 30% Design Plans and Specs



St. Louis Park & Minneapolis

Stations: Royalston, Van White, Penn, 21st St, West Lake, Beltline, Wooddale, Louisiana



Sophia Ginis
612-373-3895
Sophia.Ginis@metrotransit.org

Minnetonka, Hopkins & Edina

Stations: Blake, Hopkins, Shady Oak, Opus



Dan Pfeiffer
612-373-3897
Daniel.Pfeiffer@metrotransit.org

Eden Prairie

Stations: City West, Golden Triangle, Eden Prairie Town Center, Southwest, Mitchell

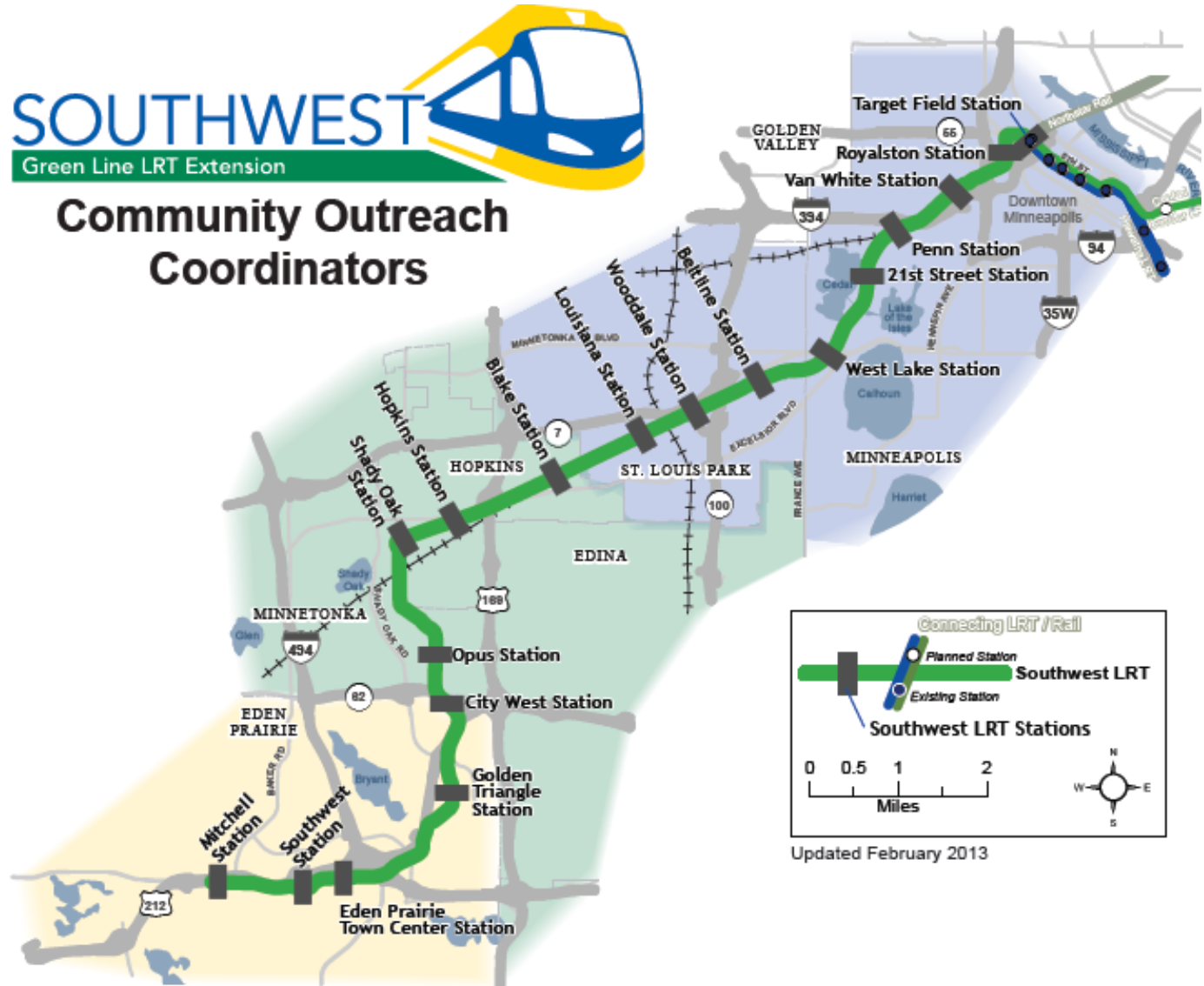


Daren Nyquist
612-373-3894
Daren.Nyquist@metrotransit.org

SOUTHWEST

Green Line LRT Extension

Community Outreach Coordinators





More Information

Online:

www.SWLRT.org

Email:

SWLRT@metrotransit.org

Twitter:

www.twitter.com/southwestlrt

